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ABSTRACT

This report of the Australian Ministerial Committee on Middle Schooling examines emerging conceptions of middle schooling and educational arguments regarding adoption of middle schooling, weighs financial implications, and provides several brief policy recommendations. Chapter 1, "Introduction," reviews the establishment of the committee, the broader social context in Western Australia, and the report's terminology and approach. Chapter 2, "Adolescence and Adolescents," explores the challenges to educational planners considering middle schooling posed by the psychological and social needs of adolescents in such areas as mental health, friendships, intellectual development, and identity. Chapter 3, "Planning a Curriculum for Middle Schooling," examines the need to develop a shared understanding of fundamental issues, Western Australian curriculum requirements, and key elements in planning the middle school curriculum. Chapter 4, "Planning Infrastructure," analyzes current schools, staff, funding patterns, and capital costs relevant to consideration of middle schooling. Chapter 5, "Endnotes," offers brief policy recommendations, concluding that adoption of middle schooling presents challenges that can be overcome only through careful planning. (Contains 40 references) (TEJ)

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ED 452 595

Planning for Middle Schooling in Western Australia

Prepared for:

Hon. Colin J. Barnett MLA
Minister for Education

By:

The Ministerial Committee on Middle Schooling

Chair:

Mrs Audrey Jackson

June 1999

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MINISTERIAL COMMITTEE ON MIDDLE SCHOOLING

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Chair: Mrs Audrey Jackson

21 May 1999

Hon. Colin J. Barnett MLA
Minister for Education
19th Floor
197 St George's Terrace
PERTH WA 6000

Dear Minister

On behalf of the Ministerial Committee on Middle Schooling, I am pleased to present this report.

The task assigned to the Committee was substantial and complex. In the space of a little more than 18 months, the Committee has come to grips with most of the issues. It has produced what I consider to be a worthwhile and significant report.

The Committee has chosen not to make specific recommendations but to provide a report that can be used as a planning and renewal document by schools.

In relation to the question of middle schooling we recognise that some schools or systems and their communities are satisfied with their current curriculum and teaching and learning processes.

We believe that our report is capable of meeting the needs both of school communities that are wary of further change and those that want more flexibility to enhance student learning as they review current practice and look to the future.

I am grateful to the members of the Committee and Secretariat who have given of their time and expertise.

Yours sincerely

Audrey Jackson

MRS AUDREY JACKSON
CHAIR

Membership of the Ministerial Committee and Secretariat on Middle Schooling

Committee

Mrs Audrey Jackson	Executive Director, Association of Independent Schools of Western Australia (Chair)
Mr Barry Alfirevich	Head of Section, Secondary Education, Catholic Education Office of Western Australia
Mr Berry Durston	Deputy Chief Executive Officer and Director, Office of Higher Education, Department of Education Services (Deputy Chair)
Mr Graham Rixon	Principal, Penrhos College
Mr Greg Robson	Director of Curriculum, Education Department of Western Australia

Secretariat

Ms Helen Crosbie	Department of Education Services
Mr Terry Werner	Department of Education Services

Terms of reference

Taking into account ongoing discussions in Western Australia and nationally about changes in school entry age, prepare a report for the Minister for Education on:

1. emerging and preferred conceptions of middle schooling in Western Australia and relevant places elsewhere;

2. the educational arguments that can be advanced in favour of (or against) the adoption of middle schooling by schools or school systems in Western Australia;

3. the financial implications of the adoption of middle schooling for government and non-government schools and systems, and for Commonwealth-State funding arrangements; and

4. options and recommendations for Western Australian schools and school systems in respect of the committee's conclusions about the above three issues.

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1. Introduction

1.1 ESTABLISHMENT OF THE COMMITTEE

Most Australian children begin their secondary schooling in year 7. The exceptions are those in Western Australia, South Australia, Queensland and the Northern Territory, where the transition to secondary schooling occurs in year 8.

In 1995, representatives of Western Australia's non-government school sectors asked for a statement of government policy on "middle schooling" (that is, schooling provided between the completion of primary education and the beginning of the two-year period during which students prepare for entry to universities, TAFE or the workforce).

This request was prompted by the announcement by the then Minister for Education, Hon. Norman Moore MLC, that the age of compulsory entry to schooling would be raised by eight months.

The Catholic and independent schools sectors were concerned about the educational and financial implications of moving year 7 from primary to secondary schools.

The Minister undertook to establish a committee to examine the issues. In 1996, his successor, Hon Colin Barnett MLA, reviewed the government's position on the school entry age, following extensive community consultation. He announced that the entry age to kindergarten would be raised by six months in 2001. He also gave an undertaking that the commitment to the establishment of a ministerial committee to examine middle schooling would be met.

The Committee began its formal deliberations in May 1997.

1.2 THE BROADER CONTEXT

Australian interest[1] in middle schooling has grown strongly in recent years, quite independently of any discussions about the age of school entry. This is evident both in jurisdictions where children begin secondary schooling in year 7 and in those where secondary schooling begins in year 8.

One reason for this interest was a national project on the middle years, initiated by the (now-defunct) Schools Council of the National Board of Education, Employment and Training.

The reports of this project paid particular attention to the nature and needs of young adolescents as a student sub-group.

Funding available through the National Project on the Quality of Teaching and Learning stimulated some schools to experiment with structures intended to meet the needs of these students as highlighted by the Schools Council.
In Western Australia, further interest was generated by the emphasis on demographic planning inherent in the Education Department's policy and framework for local area education planning. Among other things, this document poses the challenge "to examine whether [traditional primary and secondary school] structures are still relevant as we plan for schooling into the next century" (Education Department, 1997: 4).

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[1] The United States has a much longer history of middle schools than does Australia, and is one of the most influential sources of the ideas currently circulating in this country.

A third stimulus was the development of an "outcomes-based" Curriculum Framework (Curriculum Council, 1998, *passim*). This is explicit about the *ends* (or expected outcomes) of schooling, but at the same time encourages teachers and schools to experiment with the *means* of achieving them. Middle-school pedagogy and organisational structures are considered means, and therefore worth considering by schools implementing the Framework.

1.3 TERMINOLOGY

"Middle school" and "middle schooling" are not the same.

"Middle school" refers to an organisational structure that may (but not necessarily will) have a particular physical location. While the term is being used in Western Australia to refer to arrangements involving only secondary students[2], general usage and the need to consider the future placement of year 7 prompted the Committee to develop the following definition:

A middle school is a discrete organisational structure designed for the education of young adolescents, including students from both the upper primary and the lower secondary years.

There is no consensus on a specific age range to be included in such structures. The 1993 report of the Junior Secondary Review in South Australia noted that:

A four-year period best suits the local school context. It is fortunate that, in South Australia, choosing a four-year period from year 6 makes that period half primary, half secondary, as 6-7/8-9. In that situation there is likelihood that good practices and insights from people in each sector will be blended to produce a new culture of schooling. An uneven configuration, say the years 7-10, as used in some places, not only leaves out the first year of adolescence, but would lead to a dominance of one culture (the secondary majority) over another.

A 7-10 view of schooling in South Australia would simply become a version of secondary schooling with its most senior students moved elsewhere as it has done elsewhere in Australia. Secondary schooling, using the models of the past, would simply start a year earlier (and at the same year as it already does in NSW and Victoria), with no real benefit to students, and at a greater cost to the State. The Review does not support a 7-10 student grouping.

The term "middle schooling" refers to educational processes rather than organisational structures. These processes are based on beliefs and understandings about the development and behaviour of contemporary adolescents. The Committee formulated the following definition:

Middle schooling is an overall style of teaching and learning based on well-founded beliefs and understandings about adolescents and their development.

Distinguishing the two terms in this way makes it appropriate and logical to envisage the teaching and learning processes characteristic of middle schooling occurring in upper-primary or lower-secondary settings that do not conform to the definition of a middle school.

Conversely, it is possible to envisage lower secondary schools where the teaching and learning practices do not conform to those of middle schooling.

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[2] Schools catering only for students in years 8-10 would not be called "middle schools" elsewhere in the world. In America they would be called "junior high schools". Perhaps, "Lower Secondary Schools" would be an appropriate term for Western Australia.

1.4 APPROACH

The advocates of middle schooling and middle schools claim to offer a "win-win" outcome for education in Western Australia.

On the one hand, there are teaching and learning approaches that are particularly well suited to the developmental needs of young adolescents.

On the other, it is argued that middle schools, as discrete organisational structures, are consistent with a broader strategy to provide greater choice and diversity for older adolescents on "senior campuses".

The Committee's approach has been to write a report that sets out the basis of these and related claims in such a way as to answer this question:

In considering any moves towards establishing middle schools or middle schooling, what are the planning issues that will have to be resolved?

Careful planning over an extended period is critical. Commenting on the 76 per cent increase in the number of years 5-8 schools and the 61 per cent increase in years 7-8 schools since the mid-1970s in the United States, McEwin et al. (1997:n.p.) say that a junior high usually undertakes a year or more of planning before converting to a middle school.

Such planning includes extensive professional development of staff on the needs and characteristics of 11-14 year olds; visits to other middle schools; construction of a profile of future staffing needs; development of integrated curriculum; and information and discussion meetings for parents. For people involved in the process, the planning issues involve the curriculum, teachers, students and funding.

Curriculum

Broadly speaking, the curriculum issues arise from consideration of whether the practices recommended by the advocates of middle schooling are consistent with the requirements of the new Western Australian curriculum framework.

Teachers

What does it take to be a middle-school teacher as distinct from a primary or secondary teacher? How well prepared are primary and secondary graduates - and experienced teachers - to work as middle-school teachers?

These are timely questions in view of the recent introduction of the four-year bachelor degree as the requirement for initial primary teacher education and new requirements and new avenues (for example, the Centre for Professional Excellence) for the professional development of practising teachers. In principle, both developments could enhance the opportunities of teachers to study the theory and practice of middle schooling.

The establishment of middle schools as discrete organisations raises issues about the placement of teachers and their transfer rights and career progression opportunities among primary schools, middle schools and senior campuses. The different amounts of non-contact time for primary and secondary teachers is an issue, as is the common perception that there is a higher status attached to upper-secondary teaching than to lower-secondary or primary teaching.

Students

The dominant themes in almost all the literature on middle schooling are the nature, needs and problems of adolescents. The third report of the WA Child Health Survey (1997: 43) says that "recognising and responding to the changing developmental context of adolescence is emerging as a critical challenge for schools and parents of young people in the 1990s".

Funding

Is more, less or the same amount of recurrent funding needed for middle schools and middle schooling, compared with conventional primary and secondary funding arrangements? It needs to be kept in mind that secondary students currently attract more per capita funding from the Commonwealth and State governments than do primary students and that there is no distinct funding category for "middle-school" students.

Capital funding issues will vary from school to school and district to district and may involve the need, for example, to build extra classrooms to match the number of upper-primary and lower-secondary streams; to provide specialised teaching facilities, such as science laboratories; to organise additional boarding facilities; or to rationalise the use of spare buildings or empty classrooms.

2. Adolescence and adolescents

Advocates of middle schools and middle schooling argue for a form of schooling that is attuned to contemporary adolescents' social, emotional, physical and intellectual needs.

Basically, all educational planners draw from four sources for guidance and inspiration, and, in the case of middle schooling, the first two are the main subjects of this chapter:

- their own beliefs, knowledge and experience of adolescents and those of others associated with the school;
- the professional literature on adolescence;
- their own beliefs, knowledge and experience of successful educational change and those of others associated with the school; and
- the professional literature on change and innovation in education.

It is not helpful to the planning process to rely too heavily on one source to the exclusion of others. Cormack (1996: 3-4) provides some useful advice when he says:

The reading I have been able to do of the literature related to adolescents, youth culture and alienation quickly revealed that this is a contested field. Different parties with a "stake" in the adolescent alienation issue (from researchers to educators via theoreticians and youth workers) hold many views of the issues involved which may overlap or vary widely. These differences are driven by the various theories about adolescents and their place in society as well as what constitutes "alienation". These theories also tend to position adolescents and teachers in a variety of ways and suggest different implications for schools.

... It is important that we understand what drives the various recommendations for action that are being offered in much middle school literature so that we are aware of how we as teachers are being positioned and the role we are being asked to take on - a healthy and honest measure of self-interest here. It is important that we are aware of the implications of our actions for our students and for ourselves before we embark on a program of reform. Another way of saying this is that we need to understand the "problem" for which we are trying to find a "solution" and to ensure, for example, that we are not applying a solution to a problem that does not exist. ... [The adolescents and their parents and local communities and teachers are the ones who are written about but rarely have the opportunity to put a powerful public perspective themselves.

Questions and planning principles

The experts do not always agree

There are different theories and the research is open to different interpretations. While we can say they cannot all be right, conversely, they probably are not all wrong! The professional literature can be an invaluable guide to planners, provided it is weighed carefully. Decisions will almost certainly need to take account of local factors that lie outside the scope of any particular theory or piece of research.

The literature can inform as well as support innovation

There is a two-way relationship between education and the formal study of adolescence. On one hand, there are those who study the field professionally and say (in general terms), "Because we have found such and such from our research and theorising, we recommend that educators do this". On the other hand, there are those who, based on their own beliefs, knowledge and experience of adolescents, have already made up their minds to search the literature for support for them (the diversity of the literature is such that at least some support will invariably be found).

Analyse the change agenda carefully

Any agenda for educational change should be examined thoroughly for its implications. A key questions is: "What's in this for the students; the teachers and other staff; the parents and other members of the school community; and, last but not least, the proponents of the change?" Planners need to be as objective as possible about answering this question. When the change agenda is presented as the "solution to problems of adolescents" (as is the case with middle schooling), care must be exercised in the analysis of whether, and to what extent, these "problems" exist in the particular school or schools in question.

Whose problems are these?

Questions such as "Do all or only some of our students have these problems?" are important, because the adoption of middle schooling will affect all students. Questions about the school accepting responsibility for problems that relate as much to the home or broader community as they do to the school also need to be tackled. Planners should address the issue of shared responsibility by including students, parents and the community at the outset in the planning process.

Beware of stereotypes of adolescents

The planners' overall aim should be a clear, positive formulation of the possible benefits of middle schooling for students. This means being careful with the generalities and stereotypes promoted in some of the professional literature and the media, although they should not be ignored[3]. Generalities and stereotypes need to be compared with well-documented information on the realities of the particular students and school in question. The planners should always ask: "To what extent are our students like the ones we are reading about in the media and elsewhere?"

School organisation and culture

Planners need to consider the extent to which school organisation itself contributes to adolescent behaviour. It may well be that many of the features of adolescents that are described elsewhere are actually caused (or at least exacerbated) by the present nature of schools. Conversely, if the organisation and culture of primary and secondary schools are changed for the better, so too might the behaviour of the students who attend them.

Such implications are not restricted to middle years of schooling - planners should also consider the effects of establishing a middle school on the years preceding and following. A middle school, with its distinctive organisation and ethos, can free planners to re-think the organisation and ethos of both upper-secondary (10-12 or 11-12) and primary (K-5 or K-6) schooling.

---

[3] Stereotypes and broad generalisations probably cannot be ignored, because they are bound to emerge during consultations and planning discussions.

2.1 A BROAD HISTORICAL PERSPECTIVE ON ADOLESCENCE

Then

The current interest in adolescents and their education is the most recent stage in the long process of defining a period in life that is distinct from childhood and adulthood.
Many features of adolescence have, in fact, been "socially constructed", as is demonstrated by Aries (1960: 395-397) in his well-known analysis of European historical evidence. He says that even the concept of childhood was not socially recognised until the advent of certain social institutions, notably the school and the bourgeois family. Before this, the transition from infancy to the activities of adults was rather abrupt:

Our world is obsessed by the physical, moral and sexual problems of childhood [and adolescence]. This preoccupation was unknown to medieval civilisation, because there was no problem for the Middle Ages: as soon as he had been weaned, or soon after, the child became the natural companion of the adult. The age groups of Neolithic times [and] the Hellenistic paideia, *presupposed a difference and a transition between the world of children and that of adults, a transition made by means of an initiation or an education. Medieval civilisation failed to perceive this difference and therefore lacked this concept of transition.*

The great event was the revival, at the beginning of modern times, of an interest in education. ... Henceforth it was recognised that the child was not ready for life, and that he had to be subjected to a special treatment, a sort of quarantine, before he was allowed to join the adults.

... Family and school together removed the child from adult society. The school shut up a childhood which had hitherto been free within an increasingly severe disciplinary system, which culminated in the eighteenth and nineteenth centuries in the total [seclusion from the every day world] of the boarding school.

A century ago, young adolescents were part of a work force connected typically to the enterprise of a large family. Parents generally saw no need for a school to prepare children for work outside the family's main occupation. Youngsters worked alongside adults daily, a kind of youth-adult interaction that is largely absent from today's culture. Most of what young people learned then was through direct experience and first-hand observation of adults in real life (Leffert and Petersen, 1995: 93).

and now

The steady advance of industrialisation and technology has been paralleled by an increase in the length of schooling. The role of young people in the work force has changed, as has the nature of their entry to it. The on-the-job watching and doing of former times has been replaced by longer and longer periods of learning from books and verbal instruction, placing a premium on literacy.

2.2 CONTEMPORARY SNAPSHOTS

In 1996, according to the ABS census, there were some 4.84 million persons below the age of 18 in Australia: 2.48 million males and 2.36 million females. Adolescents (children aged between 12 and 18 years) made up 36.7 per cent of all children and 10.3 per cent of the total population.

Approximately two-thirds of all children lived in cities, a fifth in other urban areas, and the remainder in rural and remote areas.

Almost 7.6 per cent were born overseas (9.8 per cent in Western Australia). Over a fifth of all children had at least one parent who had been born in a non-English speaking country, explaining why 13 per cent of children spoke a language other than English at home. Around 3.5 per cent of children claimed Aboriginality, compared with about 2 per cent of the total population. Western Australia's 24,262 Aboriginal children made up one-twentieth of all children in the State.

Family life

The vast majority of children live in two-parent families. In 1996, one-parent families made up 19 per cent of all families with dependent children, of which only 13 per cent of these were headed by the father. Children living in lone-mother families tend to be younger than those living in lone-father families. Many children lived in more than one type of family during their childhood; their chances of living with both natural parents decreased as they grew older. In 1992, 87 per cent of children under four years lived with both natural parents, compared with only 76 per cent of children aged between 10 and 14 (Human Rights and Equal Opportunity Commission, 1998: 237).

Employment and income

Most children living with both parents had one or both parents in work (less than 8 per cent had no employed parent in 1996). Low-income families were more likely to be sole-parent or Aboriginal, of non-English speaking backgrounds or from rural or remote areas (44 per cent of sole parents were not in the work force in 1996).

Children as consumers

Analysts have estimated that 10 to 17 year olds represent a commercial market of around $3.9 billion a year. A recent survey showed that they have an average income of around $37 a week from pocket money and gifts or jobs.

TABLE 1: ESTIMATED AVERAGE SPENDING MONEY PER WEEK, AUSTRALIAN PERSONS AGED 10-17 YEARS

Age group (years)	Average total ($)
10-11	12.05
12-13	21.36
14-15	32.78
16-17	80.23

Source: Human Relations and Equal Opportunity Commission

Adolescents are significant consumers of goods and services. Markets in gadgets and toys, fast foods, entertainment and clothes are directed explicitly at them. Many, especially those of primary-school age, seem susceptible to aggressive selling techniques. Young people themselves consider that advertising should be accurate and truthful, but over 80 per cent believe that advertisements are truthful "only sometimes" or "never" (Human Rights and Equal Opportunity Commission, 1997: 237).

Their most common complaint about consumer issues, according to the Commission, was that young people were routinely followed or hassled by shopkeepers who seemed to think that their age made them warrant suspicion. Respondents to the HR&EOC survey nominated poor service

as their most common problem when buying products (Human Rights and Equal Opportunity Commission, 1997: 221)

Children and the media

An AMR Quantum Harris survey in 1995 found that 68 per cent of boys and 75 per cent of girls aged 10 to 13 read magazines, rising to 86 per cent of boys and 92 per cent of girls aged 14 to 17. In addition, 64 per cent of boys and 52 per cent of girls aged 14 to 17 were regular newspaper readers.

According to a 1996 Nielsen Media Research study (Human Rights and Equal Opportunity Commission, 1997: 222), children aged between 5 and 17 years watched a daily average of just over 150 minutes of television. A national survey of Internet use in 1997 (Human Rights and Equal Opportunity Commission, 1997: 222) found that approximately 45 per cent of children aged 14 to 17 had accessed the Internet at some time, and of these, over 68 per cent had done so in the past month.

Children in employment

In 1997, 53.2 per cent of 15 to 19 year-olds in Australia were considered to be in the labour force. Of those in the labour force, 37 per were working full time and 63 per cent part-time. By comparison, in 1975, 58.7 per cent of 15 to 19 year-olds were in the labour force, with 73.3 per cent working full time. The change parallels the increase in the number of young people remaining in full-time post-compulsory education. However, in June 1996, 30.8 per cent of students attending school full-time were also working (Human Rights and Equal Opportunity Commission, 1997: 227).

Children in education

In August 1997, 3.172 million Australian children were attending school full time. Of these, 70.3 per cent attended government schools (ABS, 1998). The age-participation rates[4] across Australia are shown in Table 2. In part, the differences between jurisdictions are due to school entry age differences: for example, almost all Western Australian year 12s are 16 years old when they begin that year of schooling. By contrast, around two-thirds of beginning year 12 students in the ACT have already turned 17, and most of these will turn 18 before the end of the year. This largely explains why Table 2 shows that 88.5 per cent of the ACT's 17 year olds are still at school, compared with only 39.9 per cent of those in Western Australia.

TABLE 2: AGE-PARTICIPATION RATES: ALL AUSTRALIAN SCHOOLS, 1997

Age	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aust
15	92.5	94.8	89.6	92.3	91.4	97.3	80.2	105.5	92.6
16	77.8	86.3	78.6	81.4	74.1	74.3	68.1	98.5	80.1
17	65.0	73.5	47.7	52.6	39.9	55.7	39.4	88.5	60.2
18	14.1	15.7	6.7	7.0	5.9	11.7	10.9	27.0	11.9
19	1.8	2.2	1.4	1.7	1.7	2.2	2.9	3.2	1.8
15-19	**50.6**	**54.1**	**45.3**	**47.4**	**42.8**	**50.0**	**40.7**	**61.4**	**49.5**

Source: Australian Bureau of Statistics

[4] The age participation rate indicates the proportion of the population of a given age or age range who are still at school. It is the number of full-time students of a particular age expressed as a proportion of the estimated resident population of the same age.

The issue for planners

What local information of this kind is available for incorporation in the planning process? What conclusions can be drawn from such data? Questions like this are important because they arise from the information and views presented in the following sections of this chapter. However, because the data and generalisations are more subjective, the issues also become more complicated.

We begin our consideration of these issues with a typical statement of broad generalisations about adolescence, which are then discussed in more detail.

2.3 SOME GENERALISATIONS

A typical set of generalisations about adolescents, such as these from Fry (1994:22), indicates a period of profound physical, intellectual, psychological and social change, characterised by[5]:

Physical changes

Wide diversity characterises the age of onset and rate of progress of adolescent development: for Australian young people, the normal range of onset of puberty is from 9 to 13 years for girls and from 10 to 14 for boys; girls complete secondary sexual development in an average (mean) of four years (range from 1.5 to 6 years) and boys in a mean of 3.5 years (range from 2 to 4.5 years). A rapid spurt in growth accompanies the dramatic bodily changes of puberty.

Psychological and social changes

Adolescence involves striking out from the dependence of childhood to take on a separate, independent, individual identity and value system. Behaviour emerges that reflects the profound importance of acceptance by peers in adolescent social development and self-esteem. With emerging sexuality come new, deep, turbulent, unpredictable, contradictory, sometimes hormone-induced emotions: anxiety, fear, joy, anger, love, jealousy, loneliness.

Intellectual changes

The capacity develops for abstract thinking, for deductive reasoning, for expanding the conceptual range beyond the concrete, operational, here-and-now to the hypothetical, future and spatially-remote aspects of abstract thought.

In the following sections, these groups of generalisations are examined in greater detail, beginning with the physical changes related to puberty.

Puberty

Boys and girls differ both in the timing and the patterning of pubertal changes. On average, girls begin puberty 18 months to two years before boys (Leffert and Petersen, 1995: 93). Puberty now begins earlier than it did a hundred years ago, at least in developed countries. It is salutary to

[5] Fry's listing of characteristics is based on reviews of current literature carried out by the Queensland Board of Teacher Education (1984) and Board of Teacher Registration (1994), the Carnegie Council (1989), Eyers et al. (1992) and NBEET (1993). It is, therefore, well grounded.

remember that, at the turn of the century, most young people left school and started work at 14, some years *before* puberty. Nowadays, almost all youngsters experience puberty while still at school (Leffert and Petersen, 1995: 93).

Issues for the planner

For most girls, and many boys, puberty begins in primary school, so the issues related to adjustment, described above, arise to some extent in these schools. A key issue for planners is that of determining the ways in which school organisation reflects - or should reflect - these physical changes that are so important in adolescents' lives. What should upper-primary and lower-secondary teachers actually *do* in acknowledgment of these patterns of development?

Clearly, raising the school entry age will, in time, lead to more boys and girls experiencing puberty in the primary school years. The cohort of children entering kindergarten in Western Australia in 2002 will be the first to contain children who are older than is presently the case[6].

The psychological and social aspects of adolescence

The literature indicates that the effects of puberty on adjustment are different for girls and boys and are dependent on the timing of puberty.

These assertions are confirmed by the research on early and late maturers that points to effects on psychosocial adjustment, school achievement and behaviour. Adolescents' self-consciousness about their changing bodies is generally reckoned to be an important part of their concerns about who they are and who they are becoming. Among girls aged 11-13 and boys aged 13-15 years there is tremendous physical variability, ranging from fully preadolescent status to nearly complete physical maturity. In western societies, where status and privileges are accorded to those who are "grown up", slow maturers may feel inadequate. At the same time, there seem to be a number of advantages and disadvantages attached to both early and late maturation.

Early-maturing boys tend to be more self-confident and popular, with more positive body images and higher self-esteem, than late-maturing boys. Early-maturing boys seem to be treated as if they are older and more responsible, and they gain status with relatively little effort. By contrast, late- maturing boys can feel inadequate, rejected and dominated. They are in a situation in which almost all of the girls and most of the boys of their age have begun to gain social and emotional experience in heterosexual relationships before them.

However, there are studies that show that early-maturing girls are not so popular among, nor leaders of, their peers - late maturers are more outgoing and self-confident. Early maturers tend to have a more negative body image than do late maturers, a problem that grows stronger as their adolescence progresses. An adolescent's body image is a product of the individual's assessment of his or her own physical development, peers' evaluation of physical attributes and an awareness of broader societal "standards"(ideal body images). The emphasis in much of the popular media on thinness can put girls at risk of developing eating disorders that, in severe form, may delay menarche.

A good deal of the literature emphasises - indeed, sometimes sensationalises - the negative aspects of the behaviour of a minority of adolescents (for example, truancy, substance abuse,

[6] The older half (those with birthdays between 1 July and 31 December) of this cohort will turn 11 years of age in year 5 instead of year 6, 12 in year 6, 13 in year 7 and so forth. These children will reach year 5 in 2008, year 6 in 2009 and so on.

crime, depression, attempted suicide and eating disorders). There is also a long tradition of contrasting the alleged negatives of today with the positives of yesteryear to establish an overall negative viewpoint of modern adolescents. Around 8 BC, the Greek poet Hesiod is reputed (Grinder, 1973: 31) to have said:

I see no hope for the future of our people if they are dependent upon the frivolous youth of today, for certainly all youth are reckless beyond words.... When I was a boy, we were taught to be discreet and respectful of our elders, but the present youth are exceedingly wise and impatient of restraint.

For Western Australians, one the most valuable sources of information on contemporary adolescents is the *Western Australian Child Health Survey*[7]. Volume 3 of its findings (Zubrick et al. 1997) examines the associations between their physical and mental health and academic competence and is of particular relevance to middle schooling. The quality of the Survey's methodology is such that its findings can be treated with considerable confidence.

Parent satisfaction with progress in education, social relationships and general behaviour

Zubrick et al. found that 89 per cent of parents were "satisfied" or "very satisfied" with their children's progress at school. They were similarly "satisfied" or "very satisfied" with their children's physical development (96 per cent), relations with other children (93 per cent) and general behaviour (92 per cent).

Adolescent boys living in low-income families without both parents were most likely to be rated as making less than satisfactory progress at school. Parents of boys were more likely to be less than satisfied with progress in relations with other children and general behaviour than were parents of girls. Less-than-satisfied ratings of general behaviour were more likely among single-parent families than in couple families.

Teachers' ratings of academic performance

Using schools' ratings of the overall academic performance of each student, Zubrick et al. found that about 46 per cent of all survey students were "at age level" for overall academic performance, 27 per cent "somewhat above age level" and 6 per cent were "far above age level". Sixteen per cent were said to be "somewhat below age level" and 3 per cent "far below age level"(1997: 19).

There were no differences in the proportions of primary and secondary students rated by teachers as being below age level (nearly 20 per cent for both groups). Boys were much more likely than girls to be rated below age level (24 per cent, compared with 14 per cent). Parents rated 95 per cent of children to be at or above their age level, compared with only 79 per cent so judged by teachers. It remains the case, however, that students rated below age level by teachers were more likely to be rated by their parents as being "below average" or "poor".

School absenteeism

Zubrick et al. estimated that students are absent for an median of 7.7 days a year. Students from one parent and step/blended families average 10.2 and 9.8 days respectively. Children from low-income families average 9.1 days, compared with 6.4 days for children from the highest income

[7] A collaboration between the TVW Telethon Institute for Child Health Research (ICHR) and the Australian Bureau of Statistics (ABS). The main survey was conducted in 1993. Information was collected about 2,737 children aged from 4 to 16 years. Data were gathered from principal caregivers, adolescents aged 12 to 16 years and the school principal and teacher(s) of the surveyed children (children not at school were not included in the survey sample).

families. Three percent miss at least one day per week (40 or more days per year) and a further 11 per cent miss at least half a day per week. Over 14 per cent of all absences are unexplained and 2.2 per cent of the explained absences are questionable. Zubrick et al. calculate that in Western Australia there are around 2,000 students absent without explanation each school day.

Reports of risk behaviours at school

Zubrick et al. conclude (from adolescents' ratings) that the prevalence of certain "at risk" behaviours within schools is as follows:

TABLE 3: INCIDENCE OF CERTAIN " AT RISK" BEHAVIOURS AMONG 12-16 YEAR OLDS IN WA

Risk behaviour	Incidence (percent of 12-16 year olds)
Threatening/bullying	26.5
Students fighting	23.5
Stealing	20.5
Vandalism	19.8
Drug use	17.4
Alcohol consumption	13.3

Source: Zubrick et al

Bullying

The survey found that bullying behaviour had been demonstrated by around 5 per cent of all students (8 per cent of boys and 3 per cent of girls). Bullies had a far higher incidence of mental health problems than other students (83 per cent, compared with 18 per cent). Nearly 80 per cent came from families in which discipline was "coercive", "inconsistent" or "neutral". Bullies most commonly experienced a parenting style defined as "inconsistent". Forty-seven per cent of bullies had low academic competence, compared with 17 per cent of other students.

The 14 per cent of adolescents who had been bullied were more likely to be from families with a high level of discord than from harmonious families (20 per cent, compared with 10 per cent). Also, their parents used non-encouraging styles rather than encouraging parenting styles (15 per cent, versus 8 per cent). Of bullied students, 49 per cent were in the lowest third of self-esteem scores. Twenty-three per cent of students who had been bullied were also involved in bullying others, compared with only 3 per cent of students who were not victims of bullying.

Incidence of violence

Thirty-one per cent of adolescents said they had been in at least one physical fight during the previous six months. Of these, half had fought once; a third twice or three times; and 17 per cent four or more times. Fighting was more frequent in males than females (41 per cent versus 21 per cent).

Students involved in fighting had a greater incidence of mental health problems than those who had not (37 per cent, compared with 17 per cent). Fighting more commonly involved acquaintances (37 per cent) than strangers (12 per cent). About 4 per cent of students required medical attention as a result of fighting.

Over all, Zubrick et al. concluded that during the six months before the survey there had been an average of 70 incidents of student fighting per 100 students. The extent to which fighting occurred on school premises or elsewhere was not determined.

Alcohol consumption

Zubrick et al. found that alcohol consumption increases steadily with age: 14 per cent of 12-13 year olds and 61 per cent of 16 year-olds reported having drunk "more than just once or twice". Eighteen per cent of 12-14 year-olds and 48 per cent of 15-16 year-olds reported having consumed alcohol in the previous month. Three per cent of 12-14 year-olds and 20 per cent of 15-16 year-olds reported having drunk three or more times in the previous month. Twenty-six per cent of 15-16 year-olds reported drinking in the previous six months to the point of vomiting (Zubrick et al., 1995: 30):

While teenage drinking is common and mostly occurs at low levels and frequency, it is of concern that by the age of 15 or 16 years, one in five Western Australian adolescents were drinking regularly and one in four reported episodes of having been intoxicated to the point of vomiting. ... It is important to note that similar rates of binge drinking and early onset of drinking were seen among boys and girls.

Marijuana use

Around one-third of 15-16 year-olds reported having used marijuana at some time. Of these, 34 per cent had not used it within the last year; 13per cent had used it less than monthly; 27 per cent reported monthly use; and 26 per cent reported weekly or daily use.

Marijuana use varied with parental income (26 per cent use in the lowest income quartile, around 10 per cent in the middle quartile and around 20 per cent in the other quartiles); attitude to school (those who felt alienated were more likely to use marijuana); and school culture (e.g. use was higher in students of schools where levels of vandalism and theft were high).

Mental health

Around one in five adolescents was identified as having had a mental health problem in the six months before the survey. The incidence of each of the eight major mental health problems identified by Zubrick et al. (1995: 36) is shown in Table 4[8].

TABLE 4: INCIDENCE OF MENTAL HEALTH PROBLEMS AMONG ADOLESCENTS AGED 12 TO 16 YEARS

Mental health problem	Incidence (percentage of 12-16 year olds)
Delinquent problems	8.6
Thought problems	10.4
Attention problems	7.6
Social problems	6.0
Somatic problems	5.6
Aggressive behaviour	4.6
Anxiety/depression	4.8
Withdrawal	2.7
All	20.6

Source: Zubrick et al.

[8] Some adolescents have more than one type of problem. Zubrick et al. report that of the 20.6 per cent identified as having a mental health problem, around 20 per cent had two types of problem and around 45 per cent had three or more types of problem.

Friends

Ninety-eight percent of adolescents said they had at least one close friend. Fifty-eight per cent had between two and five; 36 per cent had six or more; and less than 4 per cent said they had only one close friend. Around 84 per cent said they had someone they confided in, usually a friend (58 per cent) or a parent (45 per cent). Twenty-seven per cent of those who did not have a confidant experienced mental health problems. Zubrick et al's findings on the nature of relations adolescents have with their friends, teachers and their families are summarised in Table 5.

TABLE 5: ADOLESCENTS' RELATIONS WITH FRIENDS, TEACHERS AND FAMILY (PERCENTAGES OF 12-16 YEAR OLDS)

	Gender		Age group		
	Males	Females	12-14	15-16	All
How well have you been getting on with friends?					
No problems	52.8	50.1	53.2	48.6	51.4
Occasional problems	41.4	46.3	42.6	46.0	43.9
Constant or fairly frequent problems	5.3	3.4	4.0	4.8	4.3
How well have you been getting on with teachers?					
No problems	49.3	56.9	56.9	47.5	53.2
Occasional problems	37.3	36.4	36.1	37.5	36.6
Constant or fairly frequent problems	10.0	4.0	6.3	7.8	6.9
How well have you been getting on with family?					
No problems	45.6	32.5	42.8	32.4	38.8
Occasional problems	47.4	54.5	49.2	54.1	51.1
Constant or fairly frequent problems	6.4	12.4	7.4	12.8	9.5

Source: Zubrick et al. (1995:38)

Self-esteem and self-efficacy

Self-esteem is related both to gender and academic competence.

Zubrick et al. found lower levels of self-esteem in adolescent girls than boys (38 per cent and 27 per cent respectively in the lowest third of global self-esteem scores). Twenty-eight per cent of students with the lowest self-esteem had low academic competence (compared with 14 per cent of students with high self-esteem). Forty per cent of students who had low academic competence were in the lowest third of self-esteem scores.

Self-efficacy - the confidence to cope with the basic challenges of life - was significantly associated with ratings of academic competence. Students with low self-efficacy had almost twice the rate of low academic competence as those who had efficacy scores in the middle to upper ranges.

School alienation

Zubrick et al. found that while most adolescents (78 per cent) liked attending school to some degree, 19 per cent disliked, or felt alienated from, school.

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Feelings of alienation were not associated with school location, family structure or family income. At older ages and higher year levels, a greater proportion of students reported that they disliked school.

Students who felt alienated had a higher frequency of mental health problems (43 per cent versus 20 per cent); and low academic competence (33 per cent, compared with 16 per cent). Feelings of alienation were associated with using harmful substances: cigarette smoking (32 per cent versus 8 per cent) and marijuana use (34 per cent versus 11per cent).

Adolescent suicidal behaviour

There are approximately 450 admissions to WA hospitals each year following attempted suicides by adolescents.

Zubrick et al. found that over 15 per cent of adolescents reported having had suicidal thoughts during the six months before the survey (22 per cent of older and 12 per cent of younger adolescents).

The incidence of suicidal thoughts was not related to measures of academic competence or to the type of school attended. Suicidal thoughts were more prevalent in schools with higher rates of behaviour problems. Compared with those who did not report suicidal thoughts, those that did were more likely to have drunk alcohol regularly (22 per cent versus 10 per cent); used marijuana (33 per cent versus 13 per cent); and to have had lower self-esteem and held pessimistic views of their future.

Around 30 per cent of those reporting suicidal thoughts had tried to harm or kill themselves. Almost 77 per cent of these had a mental health problem according to their self-reports, but only 29 per cent according to parent and teacher reports. Alcohol and marijuana use was much more prevalent in this group than among students who had not tried to harm themselves.

The intellectual changes

The management by psychology of the concept of intelligence is arguably the source of some of the most telling criticisms of the work of that discipline.

For much of its history, psychology has been preoccupied with the notion of intelligence as a single entity, its quantification as one number for each individual (the "IQ"), and the use of these numbers to rank people according to numerical values (Gould, 1981).

In education, this led to the use of IQ measures to group students according to their assumed capacity to profit from different types of curriculum, widely referred to as "streaming".

However, the notion of fixed intelligence, measured by an IQ test, plays no role in the arguments in favour of middle schooling, either in Australia or elsewhere.

At the core of Fry's generalisation (cited earlier in this chapter) about intellectual changes (1994: 22) is a different view of intelligence, associated with the work of Jean Piaget, the Swiss researcher and theoretician, whose name is familiar to every teacher in Western Australia.

Piaget's work became widely known to English-speaking psychologists and educators during the 1960s and 1970s. Instead of seeing intelligence as a single (and more-or-less fixed) entity, Piaget saw it in terms of the individual's evolving capacity to perform certain mental operations.

This evolution was characterised by Piaget as a succession of distinct stages from birth through to maturity. The mental operations of individuals at each stage are, according to Piaget, qualitatively different. His research was dedicated to identifying and explaining the precise nature of these mental operations at each stage.

The significance of his work for middle schoolers (as indicated by Fry) is his assertion that the most developed form of mental operations emerges around the time of adolescence.

According to this view, pre-adolescent thinking has limitations because of its dependence upon concrete objects.

This does not mean that children must actually manipulate objects in order to be able to think about them and solve problems concerning them. Rather, it means that children must be able to represent them as images in their minds (which, it is accepted, they can do). Children are not able to work with the abstractions of algebra (say), although they can perform calculations with first-order abstractions where x and y represent known concrete objects such as *apples* and *pears*.

They are also capable, for example, of classifying concrete phenomena and building quite complex networks of subordinate and superordinate categories. However, pre-adolescent children are regarded as being unable to set up hypotheses and systematically test them, which is said to be the distinguishing characteristic of the development of adolescents' thinking, referred to as "formal operational" thinking by Piaget.

Flavell, who is widely regarded as being a definitive interpreter of Piaget's difficult writings, summarises the concept of formal thinking as follows (Flavell, 1963: 156):

The most important general property of formal operational thought ... concerns the real versus the possible. Unlike the concrete operational child, the adolescent begins his consideration of the problem at hand by trying to envisage all the possible relationships which could hold true in the data and then attempts, through a combination of experimentation and logical analysis, to find out which of these possible relations in fact hold true.

Whereas concrete operational thought is concerned with that which has come directly to the senses, formal operational thought is concerned with potentialities, with imagining what might exist and how it might be acted upon. This is true hypothetico-deductive reasoning: the ability to set up a hypothesis of what might be the case, and then to determine systematically whether it is so[9].

Nowadays, Piaget's theory is by no means universally accepted.

There seems to be a fairly high degree of acceptance of his basic thesis that intelligence develops over time and that there are distinctly different forms of thought. However, there is widespread agreement that the ages he attached to transitions from one stage to the next are quite misleading: for example, while Piaget said that formal operations begin around 11-12 years, a study of several thousand Sydney adolescents concluded that, of those still at school in the post-compulsory years, "it is not until 17-18 years of age that a majority of the subjects give evidence of the capacity for formal thought" (Connell et al., 1975:127). Of those who had left school, 8 per cent showed formal operational thought at age 15, 15 per cent at age 17 and 35 per cent at age 20.

[9] Albert Einstein, who revolutionised physics, was once asked where his laboratory was. In reply, he tapped his head and pointed to the note pad he invariably carried with him.

Findings such as these deliver a salutary warning that we should not assume that all adolescents are capable of abstract thought, simply because of what Piaget found with small samples of middle-class Swiss children.

Further, we should not overuse written and spoken words as the media for teaching and learning: Piaget (1972: 17) himself suggested that formal operational thinking is most likely to develop in those areas where an individual has a special interest and knowledge.

Multiple intelligences: Gardner's views

In *Frames of Mind*, Howard Gardner (1983) challenged the standard view of intelligence with the idea that human beings have several distinct - "multiple" - intelligences. While Piaget did much to dispel the notion of intelligence as a single, more or less fixed, entity, he nevertheless promoted the view that intelligent behaviour was underpinned by the same mental operations, regardless of context. Piaget's is a view that does not differentiate among, for example, philosophical, scientific, historical, artistic or linguistic thinking.

Gardner rejects this notion.

Using an elaborate set of criteria - including evidence from studies of brain damage, prodigies, developmental patterns, cross-cultural comparisons and various kinds of tests - he identified seven[10] different intelligences, which, he claims, everyone possesses in varying degrees, and which can be profiled.

The general characteristics of these relatively discrete intelligences, combinable in different ways to form the intellectual repertoire of different individuals, are as follows:

1. **Linguistic intelligence** - the capacity to use language effectively as a vehicle of expression and communication (poets and writers).

2. **Logical-Mathematical intelligence** - the capacity to think logically, use numbers effectively, solve problems scientifically, and discern relationships and patterns between concepts and things (mathematicians and scientists).

3. **Spatial intelligence** - the capacity to think visually and orient oneself spatially. In addition, spatially-intelligent people are able to graphically represent their visual and spatial ideas (artists, decorators, architects, surveyors, inventors, and guides).

4. **Musical intelligence** - the capacity to appreciate a variety of musical forms, as well as to use music as a vehicle of expression. Musically-intelligent people are sensitive to rhythm, melody and pitch (singers, musicians, and composers).

5. **Bodily-kinaesthetic intelligence** - the capacity to use one's own body skilfully as a means of expression or to work skilfully to create or manipulate objects (dancers, actors, athletes, sculptors, surgeons, mechanics, and craftspeople).

6. **Interpersonal intelligence** - the capacity to respond appropriately and effectively to other people and understand their feelings (salespeople, social directors, travel agents).

[10] Gardner's recent research has added to the original seven intelligences both the classificatory intelligence of the naturalist and (though he has some doubts about this one) spiritual intelligence (Craft, 1997: 6).

7. **Intrapersonal intelligence** - the capacity to know one's self accurately, including knowledge of one's own strengths, motivations, goals and feelings (entrepreneurs, therapists, patients and wise elders.).

Gardner reaches several conclusions about these intelligences (which he is willing to call "intellectual competencies", "thought processes", "cognitive capacities", "cognitive skills", "forms of knowledge" or even "useful fictions" (1983: 284).

- Human beings have evolved to have several distinct intelligences and not a single general intelligence.
- Each of these intelligences is relatively independent of the others.
- Any significant achievement involves a blend of intelligences.
- These intelligences are valued by cultures around the world, though not always to the same degree.

In Gardner's view, every human achievement is permeated by intelligence of a kind far more subtle and complex than commonly believed. These multiple intelligences "are present in virtually every realm of human activity" and not just in the verbal and analytical activities commonly used to denote the state of being "intelligent" (1983: 285).

This conclusion leads him to criticise educational systems for their bias toward the linguistic and logical-mathematical intelligences.

Gardner's views, like those of his predecessors, are the subject of considerable dispute. That they have found favour with teachers is perhaps attributable to them being able to relate their specialist areas of knowledge readily to one or other of Gardner's intelligences.

Thus humanities teachers find it easier to relate to the notion of "linguistic intelligence" than to "logical-mathematical intelligence" and vice versa for teachers of science and mathematics. Middle schoolers generally, with their concerns for personal development of adolescents, relate readily to the concept of "interpersonal" and "intrapersonal" intelligences.

In the final analysis, the Committee is not competent to arbitrate disputes among psychologists about the nature of intelligence or its development. A fair account of the subject as whole is beyond the scope of this report[11].

2.4 SOME EDUCATIONAL GENERALISATIONS

At this point, the key questions for the planner are: "What are the educational generalisations that can be derived - what challenges are set for schools - from research and theorising of the kind outlined in previous sections?" "What do school planners now do with the information they have gathered on the physical, psychological, social and intellectual characteristics of the students for whom they are planning?"

Eyers et al. (1992) concluded from Cormack's review of the literature, commissioned for the South Australian Review of Secondary Education in 1991, that the challenge for schools lies in

[11] In addition to the views briefly canvassed in this section there are many others that could have been included. Fogarty (1995), for example, lists seven other emergent theories.

resolving the tensions that arise between an emerging sense of adolescent identity and concurrent need for independence and control, and a recognition that adolescents are not yet capable of complete self-regulation.

In summary, Eyers et al. (1992) argue that schools must address young adolescents' need to:

- adjust to some profound changes - physical, social, emotional and intellectual;
- grow towards independence (while still needing security in many personal relationships);
- gain experience in decision making and in accepting responsibility for these decisions;
- develop a positive self-confidence through achieving success in significant events;
- progressively develop a sense of "Who am I?" and of personal and social values that become part of their lives;
- establish their own sexual identity;
- experience social acceptance and gain affection and support among peers of the same and opposite sex;
- think in ways which become progressively more abstract and reflective;
- become more aware of the social and political world around them, and gain skill in interfacing with that world; and
- establish or maintain relationships with particular adults who can provide advice and act as role models.

The reader will note that the agenda of Eyers et al. for schools is consistent with the broad sweep of Fry's generalisations about adolescent development itself, set out earlier in this chapter.

A striking feature is that the traditional view of the main purpose of schooling - the development of competency across several subject areas – is not prominent. The features that dominate are almost all matters of personal, social and emotional growth, with the unifying concept of "identity" being particularly obvious.

Identity

This concept has a central place in many accounts of adolescence and middle schooling. Its origin lies in the work of the psychologist, Erik Erikson, who did much to reconcile the biological emphases of Sigmund Freud and the environmental concerns of Freud's critics.

Erikson (1968) saw development from birth to death in terms of eight stages. Each stage requires the resolution of a central "crisis" between the demands of the social environment and those of the biological or psychological needs and drives.

I [see] growth from the point of view of conflicts, inner and outer, which the vital personality weathers, re-emerging from each crisis with an increased sense of inner unity, with an increase of good judgement, and an increase in the capacity "to do well" according to his own standards and to the standards of those who are significant to him.

(Erikson, 1968:91-92)

The crisis of adolescence is "identity versus role diffusion". Erikson had observed role diffusion, in the form of alienation from the self and the society, in his clinical work with disturbed American Indians, war veterans and American and European youth, and, to a lesser degree, in normal adolescents.

He concludes that the outcome of the identity crisis depends to a considerable extent on what the outcomes were for four earlier psychosocial crises. Conversely, the outcome of the identity crisis has an impact on how subsequent crises, from young adulthood through to old age, are resolved.

Erikson makes the point that the individual and the society bear a later cost in lost productivity for unsatisfactory resolution of the identity crisis.

Identity can be seen as a person's answer to the basic question "Who am I?" For a contemporary adolescent, this raises a series of further questions and issues:

- When will I leave school?
- Will I do further study after I leave school? If so, will I do so in the following year?
- What sort of career do I want to follow? Do I want to pursue a career at all? (The choice of an occupation is an important identity decision, because for adolescents a job means not so much a way of earning a living as "something to be").
- Making a commitment to an intimate and/or sexual relationship with a partner.
- Deciding whether, when and how to become active in a political, ideological or religious context.

Each individual must create coherence out of all these separate decisions in the form of:

- A philosophy of life that includes moral values and an orientation to religion.
- A personality pattern that integrates enduring temperamental qualities and basic dispositions into a comfortably-fitting adult character.
- A decision about one's gender-role position.
- A sense of self as a sexual being.
- A stance in relation to politics and social issues.
- A blueprint for future intimate relationships (e.g. to marry and have children, to cohabit and remain child-free, or to join a religious order and/or remain celibate).
- A sense of self in relation to society, including ethnic identity.
- An occupation or vocational identity.

(Petersen, 1996:401)

A successful outcome is a stable, coherent sense of "who I am and what I will become". However, other outcomes are also possible:

- **Foreclosure** occurs when adolescents fail to explore alternatives and simply adopt an identity imposed on them from outside.

- An **identity moratorium** is a protracted identity crisis - a postponing of some key decisions - although this can lead to highly-successful outcomes during adult life.

- **Identity diffusion** amounts to a complete opting out of the crisis, producing anxiety, low self-esteem and an inability to make life decisions.

The concept of identity, from the planner's view point, can serve as an important overarching guide for the personal development of adolescents. It is, however, probably too broad to serve the purposes of the more detailed analysis required for school planning.

2.5 THE IMPLICATIONS FOR PLANNERS

One of the central concerns in the Australian literature on middle schools is the concept of alienation. The findings of Zubrick et al. presented earlier in this chapter indicate that while some school-aged adolescents may in fact feel alienated from schooling, most do not. Planners should be circumspect when drawing conclusions about their particular schools. To return to the opening theme of this chapter, one of the planners' jobs is to undertake an assessment of their school's current situation, using the light of findings from well-founded research such as that reported by Zubrick et al. as a guide.

It is also the job of planners to develop an educational agenda that enjoys the support of all teachers, parents and students. Planners who set out to link an agenda for the adoption of middle schools more closely to 'alienation' than credible data allow, run the risk of not winning the support they need for the innovation. It would be unfortunate if the adoption of middle schools were promoted as a (or especially *the*) 'treatment' for student alienation - unless such schools are only for alienated students.

Planners need a framework to guide them in their work; one that enables them to recast the findings of their assessment of a school's social and psychological dimensions into a positive program of action. Various approaches have been developed around the concept of the "health-promoting school". The framework developed for the National Mental Health in Schools Project (NMHSP), (1998: 6) has three interconnected domains: curriculum, teaching and learning; school organisation, ethos and environment; and partnerships and services.

Curriculum, teaching and learning

The need for health and physical education for all students at all year levels is emphasised, as is the need to establish links between the health and physical education learning area and each of the other learning areas. Skills such as communication, assertiveness, conflict resolution, goal setting and decision making are regarded as responsibilities of all learning areas. Topics such as grief and loss, the understanding of mental illness, and bullying, while not the exclusive domain of health and physical education, are seen as best dealt with by that area. The encouragement of students, parents and teachers all to have a say in the determination of which mental health issues are to be addressed is also advocated.

The NMHSP framework articulates principles of teaching and learning that are consistent with those supported by middle schoolers: for example, a relatively high level of student input into decisions about teaching styles, assessment methods and curriculum content. Also recommended are frequent opportunities for students to work cooperatively and to experience success and positive feedback[12].

School organisation, ethos and environment

The NMHSP framework emphasises the need for clear definition, through school policies and procedures, of what is considered desirable (parent involvement, fairness and equity, respect for and protection of rights, and safety and health) and what is considered undesirable (behaviours that involve harassment, discrimination, bullying, suspension and expulsion).

[12] These issues are discussed in rather more depth in Chapter 3

The framework also advocates as open administration to help set a tone of openness among teachers, students and parents. Also, a cared-for physical environment is said to help encourage caring in human relations among the whole school community.

Partnerships and services

It is axiomatic that schools "cannot do it all by themselves". If people outside the immediate school community are deliberately, inadvertently or unwittingly pulling students in directions that are odds with the ethos of the school, the school's chances of achieving its goals are diminished. The same applies if a school is not aware of, or does not use, resources that could help. "Partnerships and services" is about schools looking beyond their immediate environment to find support and assistance.

To use this framework planners need ways of finding out (the NMHSP refers to them as "audit tools") how their schools stand in relation to each of the different aspects of the framework. Planners also need tools to help the school take its audit findings forward to a program of action and tools to manage and monitor the program. This methodology is equally applicable to planning for middle schooling in a whole-school context.

An audit of possibilities conducted by students

The development of a strategic plan and an action plan require a clear conception of what it is both desirable and possible to achieve. The philosophy of middle schooling strongly supports the involvement of students in deciding the possibilities for the future.

The concept of "appreciative inquiry", recently introduced to Western Australia by the well-known television and radio journalist, Peter Holland, is a potentially powerful way of providing for this. Appreciative inquiry has aroused interest among many people because of its application to a project called "Imagine Chicago", inspired by Bliss Browne, a former corporate banking executive.

She asked "What might happen if all of Chicago's citizens were mobilised to give public expression, continuously, to their imagination about a healthy future for the city as a whole, and were invited to claim their role in bringing that vision to life?"

A millennium project called "Celebrate W.A." has been launched recently, based on applying the same question to Western Australia:

In the early stages of planning Imagine Chicago there was talk of wanting to conduct interviews with one million people - at least one for every household in the city. Now it appears that many more than that will happen. The key question was who should do the interviews and collect the data. Surprisingly, it was discovered that the pilot program's very best interviews were conducted not by academics or organisational development consultants, but by children. The most powerful interviews were when children of all races and cultures did interviews with the city's elders: priests, chief executive officers, school principals, parents, artists, scientists, etc. These resulted in the most inspiring stories, the most passion-filled data, the most textured and well-illustrated examples, the moat daring images of possibility.

(*Celebrate W.A.*, n.d.)

Appreciative inquiry is based on the principle of asking powerful, positive questions. It focuses on the optimistic and creative, rather than the negative or destructive, as forces for building the future. As such, it is contrasted with problem solving as the principal method of planning:

Appreciative inquiry starts with the belief that we have reached the end of problem solving as a mode of inquiry capable of inspiring, mobilising and sustaining human system change, and that the future belongs to methods that affirm, compel, and accelerate anticipatory learning involving larger and larger levels of collectivity.

(*Celebrate W.A.*, n.d.)

Celebrate W.A. aims to involve the whole community in activities that parallel those of the Imagine Chicago project. Participation by schools is one the project's key strategies.

It is suggested that middle-school planners become more informed about the project, learn more about the process of appreciative inquiry and consider incorporating it into their own strategies.

3. PLANNING A CURRICULUM FOR MIDDLE SCHOOLING

3.1 THE UNDERLYING QUESTIONS AND ISSUES: GETTING STARTED

Curriculum questions such as the following may well dominate the planning discussions:

- What do our students need to learn, regardless of other considerations?
- What will be the content or substance of our middle-school curriculum? Who should decide this - and how?
- What methods of teaching and learning are best for this age group?
- Do our teachers have sufficient training and experience with these methods?
- Are multi-age groupings[13] feasible or desirable?
- What balance needs to be struck between the personal needs of students now and the needs they will have later in their education and as they enter the wider society?
- What balance needs to be struck among knowledge acquisition (*knowing that*), skill development (*knowing how*) and values (*knowing why*)?
- Should the students themselves have a say in deciding curriculum matters, and, if so, which ones and by what means?
- What materials and support services do we need to mount and sustain a middle-schooling curriculum compared with what we have now?
- Is such support going to be available and affordable?
- Are some forms of work organisation - the way in which a school deploys its staff - more effective than others when it comes to how well students learn?

Doctrinaire application of middle schooling principles

Middle schooling is best regarded as a broad movement of people united in the belief that the education of young adolescents can and should be improved.

Though there is no definitive statement of all aspects of *the* curriculum for middle schooling, there are a number of curriculum principles and practices - such as student-directed learning, group work and collaborative teaching - that are generally accepted.

However, as with movements generally, the doctrinaire application of these is to be avoided. Williamson and Johnston have some timely advice for Australian practitioners, based on their observations of the history of the middle school movement in the place where it began - the United States. They argue that many current proponents and practitioners have lost sight of the movement's founding principle ('responsiveness to student and community needs and individual differences'), which has now become shrouded by a rigid orthodoxy (1998:30).

[A] dogma has arisen around middle schools and is reflected in lists of middle school characteristics, comparisons of middle schools to junior high schools and identification of genuine middle schools. Purveyors of the orthodoxy suggest simple and easy transitions to a new school model. ... Sadly, hundreds of middle-level faculties have adopted the orthodoxy. They measure their success around the existence of teams, advisory programs, interdisciplinary units, block schedules, intramural programs and other features. Missing is the passion to serve early adolescent learners.

Williamson and Johnston's point is quite clear: keep the needs of your students uppermost and avoid the unthinking adoption of other people's answers to the underlying curriculum questions. Construct a curriculum that is responsive to your students, not those of someone else.

[13] Groupings or classes that include students from two or more adjacent year levels: for example, years 7 and 8.

Rather than asking "What does middle schooling really mean? it is better to ask "What does it mean for this school?" or, perhaps, better still: "What problems currently faced by our school might be solved - and what strengths might be further capitalised on - through the adoption of middle schooling practices?"

How big a curriculum change can your school handle?

The planning principles to keep in mind are:

- Radical change is more difficult to plan and implement than a series of small incremental changes.
- The success of any change depends on understanding, acceptance and support from all those affected - staff, parents and students.

The practices advocated by middle schoolers can be classified by the extent to which they differ from the way things were "normally"[14] done previously. For example, one approach leaves the goals and content of primary and secondary curricula unchanged but uses primary school pedagogy in their delivery. Across years 6-9 this means fewer than usual different teachers, flexible block timetabling and integrated programs for some or all subjects areas. Because lower-secondary students normally have a different teacher for each subject, having the same teacher for three, four or more subjects, while unusual, is not radical.

Another approach is to look to the students themselves, rather than to subjects, for the goals and content of the curriculum. This involves gearing the curriculum to meeting the needs of students as they see them. Content, pedagogy and assessment become matters for negotiation between teachers and students. In schools that normally organise their curriculum by subject areas and where teachers make all (or most) of the curriculum decisions unilaterally, this would be a radical change.

When scrutinising the array of practices advocated for middle schooling, planners are advised to:

1. Ensure that everyone involved has the same understanding of what constitutes the fundamentals of a curriculum - any curriculum - regardless of time and place.

2. Develop a clear understanding among participants of what is required of any Western Australian curriculum, particularly in relation to the Curriculum Framework.

3. Undertake a review of the school's current curriculum in terms of:

   - the students' performance, behaviour and values
   - relevant systemic or other requirements
   - the school's current programs and forms of work organisation.

4. Develop a clear, shared understanding of the possible advantages and disadvantages of middle schooling in relation to the findings of the review.

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[14] It is acknowledged that what is *"normal"* across a whole system is debatable - there are always differences among schools. It would be best if those planning middle school curriculum were to interpret this as *"what is normally done in this school"*.

3.2 DEVELOPING A SHARED UNDERSTANDING OF THE FUNDAMENTALS

The professional literature on curriculum theory and practice is characterised more by dispute and contention than by harmony and agreement. In developing a shared understanding, it is advisable to begin with simple propositions on which people can agree.

Three basic features

Most people agree that any curriculum must have:

- One or more goals - which may variously be termed its "chosen purposes", "intentions", "objectives", "ends", "aims", "intended outcomes", etc. (according to the favoured terminology of the time and place).
- Content - its chosen subject matter or objects of study and experience.
- Pedagogical means - its chosen approaches to learning and teaching.

Admittedly, points of disagreement will arise over which goals and why? Which content and why? Which pedagogy and why? Each requires difficult decisions to be made, justified and agreed to by all those involved.

Relations among the fundamentals

Goals, content and pedagogy are not stand-alone features of curriculum: the nature of their interdependence needs to be grasped in order to move forward. Figure 3 (adapted from Adler, 1977:285) makes the point quite simply. Firstly, Adler distinguishes different types of goal: those involving knowing *that*, knowing *how* and knowing *why*. He then juxtaposes these with the fundamentals of content and pedagogy to make the point that not only are there different types of goal, but that these must be matched by the right decisions about content and pedagogy. This is a critical to understanding the argument in favour of middle schooling, because so much of it is based on criticisms of the capacity both of conventional pedagogy (in particular) and curriculum content to meet the needs of adolescents.

Adler (1977) astringently underscores the importance of matching goals to the right content and pedagogy. Of *knowing that*, which involves the acquisition of information or knowledge of the facts in a field of subject matter, he says:

The kind of teaching that assists, but only assists, this kind of learning is didactic teaching. It is teaching by telling, teaching by lecturing, teaching by textbook assignments and by examinations on those textbook assignments, teaching by class exercises and blackboard work. Unfortunately this least important kind of teaching is the only kind that most teachers do.

He says of *knowing how*, which involves the acquisition of skills such as reading, writing and problem solving:

[Children] never will be able to do these things if they are not coached. These skills can be developed in no other way. We have to get coaching back into the schools. Coaching is ten times more important than the acquisition of organised knowledge ... Skills are habits, not memories. Habits are much more durable than memories, especially than the memory of information acquired without much understanding of the facts remembered.

(1977: 284, 296)

FIGURE 3: A SIMPLE CURRICULUM FRAMEWORK

	Knowing that	Knowing how	Knowing why
Goals	Acquisition of organised knowledge	Development of intellectual skills - skills of learning	Enlarged understanding of ideas and values
Pedagogical means	*by means of*	*by means of*	*by means of*
	Didactic instruction, lectures and responses, textbooks and other aids	Coaching, exercises and supervised practice	Discussion, questioning and active participation
Content	*in three areas of subject matter*	*in the operations of*	*in the activities of*
	Language, literature, and the fine arts	Reading, writing, speaking, listening	Discussion of books (not textbooks) and other works of art
	Mathematics and natural science	Calculating, problem-solving, observing, measuring, estimating	and involvement in artistic activities, e.g. music, drama, visual arts
	History, geography and social studies	Exercising critical judgement	

Source: adapted from Adler (1977:285)

(1977: 284).

And of *knowing why*, which relates to the formation of values and to the deeper understanding of issues:

It must be done by discussion, by the Socratic method of asking questions in seminars ... in which the things discussed are books, not textbooks. You have to have books that are readable and discussable, that deal with ideals and values.

(1977: 286)

To sum up, some goals are simply unattainable unless they are matched by the right selections of pedagogy and content. This point is critical to the understanding both of Western Australia's new curriculum requirements and of middle schooling.

3.3 UNDERSTANDING WESTERN AUSTRALIAN CURRICULUM REQUIREMENTS

The Curriculum Framework

Middle schooling involves two innovations, not one

Planners need to bear in mind that, over the next five years, Western Australian schools face a major curriculum innovation - implementation of the Curriculum Framework. All schools,

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government and non-government, are required to conform to the Framework by 2004. Schools adopting middle schooling during this period will be faced with a dual innovation.

It is a moot question whether schools would be better off implementing the Framework and middle schooling simultaneously or consecutively (and, if the latter, in what order). To decide the answers that best meet their needs, planners need to have a clear picture of the nature of both the Framework and middle schooling as curriculum innovations.

The nature of the Framework

The Curriculum Framework makes explicit the learning outcomes [c.f. goals] which all Western Australian students should achieve. This focus on outcomes represents a major shift in school curriculum from a focus on educational inputs and time allocation toward one that emphasises the desired results of schooling

(Curriculum Council, 1998:6).

The published Framework consists of a 35-page overarching statement of the curriculum as a whole (from kindergarten to year 12) and eight individual learning area statements (covering 270 pages). There are 13 overarching learning outcomes for the curriculum, and a further 65 for the eight learning areas, ranging from four for the Arts learning area through to 18 or 19 for the Mathematics area.

These learning outcomes comprise the mandatory element of the Curriculum Framework which all schools in Western Australia must either implement or obtain an exemption from doing so from the Minister for Education

(Curriculum Council, 1998:9)

The Framework also specifies 32 "core shared values" that each school is encouraged to inculcate in students.

The Framework's "fundamental purpose is to provide a structure around which schools can build educational programs that ensure students achieve agreed outcomes" (Curriculum Council, 1998:6). It is described as being "neither a curriculum nor a syllabus". The Framework does not prescribe the methodology for the development of programs - this is left to schools to decide for themselves:

Schools and teachers will use the Curriculum Framework to develop their own learning and teaching programs according to their circumstance, ethos and the needs of their students.

(Curriculum Council, 1998: 6)

3.4 REVIEWING AND PLANNING FOR MIDDLE SCHOOLING

Any school considering middle schooling should begin to review what its students are attaining now in relation to the stated outcomes of the Curriculum Framework.

For this purpose, the use of a "progress map" is recommended:

A progress map, which describes the nature of student development in an area of learning, is a useful tool for teachers to use as a frame of reference to make judgements that underpin their reporting [and planning]. The Education Department will use Student Outcomes Statements as the progress map for government schools and has offered to make these statements available to non-government schools. However, alternative mappings to the same

end are possible and may be devised and used by other sectors and schools. The Australian Council for Educational Research (ACER) has published a document on developing progress maps as part of its Assessment Resource Kit (ARK) series.

(Curriculum Council, 1997:6)

Government schools are advised to use the Education Department's "map" for this review because it is central to subsequent planning and reporting.

Non-government schools may use different "maps", although they too would be well advised to select the "map" that they intend to use subsequently for reporting purposes.

The planning principle here is that using one tool to do several related tasks (curriculum planning, assessment, evaluation and reporting) is more economical of time and effort than is using a different tool for each task. Starting - and staying - with the one progress map means that today's review findings can be used for tomorrow's planning across learning areas and year levels. Also, the findings of the initial review can be used as baseline information when answering future key questions such as: "What have been the results of the introduction of middle schooling?"

Planners should also examine all available data about the performance of their lower-secondary and upper-primary students. Data - particularly those from Monitoring Standards in Education test instruments relating to the performance of students from the school or schools under consideration - will be highly relevant.

Studies of large samples have consistently found a "plateauing" of performance in certain areas (particularly in English and mathematics skills) after students make the transition from primary to lower secondary schooling. Hill (1994: 39), in his analysis of graphical presentations of data related to the Victorian English profiles, commented that:

A noteworthy feature of the graph is the flattening out of the growth trajectory for low-achieving students. The graph indicates that achievement levels of students at the tenth percentile increase by less than one level between years 4 to 9. Another feature of the graph is a discontinuity between primary and secondary schools, with a dip in the rate of progress of students in the first year of secondary school (year 7). This pattern has been observed in previous studies using common measures over primary and secondary schooling and is assumed to reflect transition and developmental factors or possibly different interpretations of standards between primary and secondary teachers.

A plateauing effect can also be seen in certain aspects of the data reported by the Education Department of Western Australia about student achievement in English (1997), Society and Environment (1994), English and Mathematics (1992) and Health and Physical Education (1994).

If a "plateau" effect is evident in comparisons of the performance of lower-secondary students and students of the feeder primary schools, the planner should encourage the staffs of the various schools to consider jointly what its significance may be. All aspects of curriculum and its delivery should be discussed.

Reviews, however, should extend beyond the information gained through progress maps and other achievement data. Other information is needed that can throw light on *why* the student performance profiles are as they are. Any discrepancies in the values and attitudes of students and teachers are matters that should be illuminated. Cumming (1994:13), for example, claims there is evidence that:

for a significant number of adolescents the curriculum lacks relevance and cohesion; teaching practices are alienating or simply boring; and organisational structures and procedures are rigid and disempowering. A recent national study of disadvantaged youth revealed that the majority of those surveyed "considered schooling to have been an unhappy and unproductive experience".

Generally speaking, if a school's overall assessment of its current situation is that its students are unhappy, are not progressing and what they are learning does not sit easily with the expected outcomes specified in the Curriculum Framework, then middle schooling could be a worthwhile innovation.

Taking the next step requires interpreting the findings of the school's review in terms of the defining characteristics of middle schooling. In doing this, planners need constantly to probe the findings of the review with questions such as:

- What teacher knowledge and skills are needed for middle schooling?
- To what extent do we already have them?
- By what means could we acquire those that we lack?

The defining features of middle schooling

Much of what has been published on middle schooling is a plea for different pedagogy (and to a lesser extent, different curriculum content), especially in the lower-secondary years.

The Schools Council report on the subject (1993: 38) says that a recurring theme in the literature is that:

Students need to be connecting their learning to everyday experiences. Teachers need to be connecting their teaching to what students already know and can do, then linking their activities to more advanced stages of student learning. All those with responsibility for young people's education and development need to be facilitating the development of student pathways that integrate education, training, work and adult life.

The Schools Council goes on to argue (1993:38) that:

Adolescents need to foster an inquiry ethic as part of their learning through information processing, productive networking and collaborative activity. Students should be identifying and exploring the potential of the vast array of human and physical resources that lie beyond the classroom and the school, especially in the local community. In order to acquire, develop and apply their knowledge and skills in a broad range of authentic settings and contexts, young people need to pursue their learning in cooperation with a wide range of representatives including the family, community groups, business and industry, local government, and people in retirement.

In the United States, the National Association of Secondary School Principals emphasises (1997: n.p.) that the differences between a middle school and a junior high school are primarily to do with the way a curriculum is delivered (encompassing both pedagogy and organisation):

Generally, the grade configuration of a junior high school is [years] 7-9, and the configuration of a middle school is [years] 6-8. However, difference in the grade configuration is not as significant as the difference in the programs offered at the two types of middle level schools. In fact, some schools with "junior high" grade configurations have "middle school" programs and some schools with "middle school" grade configurations have "junior high" programs.

Figure 4 contrasts the defining features of middle schools and junior high schools, according to the Association.

FIGURE 4: FEATURES OF A MIDDLE-SCHOOLING ORIENTATION CONTRASTED WITH THOSE OF A CONVENTIONAL JUNIOR HIGH ORIENTATION

Middle-school orientation	Junior high orientation
Continuous progress	A graded structure
Multi-material approaches with students learning at different rates	Students all required to keep pace with the teacher, usually following a " set text" , with all students " on the same page at the same time"
A good deal of flexibility in the timetabling of learning episodes, controlled by the teacher/s	Little or no flexibility for teachers in the timetabling of learning episodes
Team teaching where teachers plan together across subject areas	Departmentalisation, where teachers plan individually for each subject area
A school (or sub-school) ethos whose social experiences are geared to 11-14 year olds	An ethos that is very similar to that for 16-17 year olds
Planned gradualism in the transition from childhood to adult-like independence	An abrupt transition from childhood to adult-like environment
Exploratory and enrichment experiences meeting individual interests of students	Exploratory opportunities curtailed by the need to " cover the syllabus"
Individualised and group guidance services led by teacher-advisers	Guidance services geared to academic performance
Ample independent study opportunities for all students	Limited independent study opportunities, often confined to bright students
Student-centred, student-directed and student-developed creative activities	Teacher-centred, teacher-directed and teacher-developed creative activities
A security group and a teacher who knows many students well	A homeroom setting mainly for administrative purposes
Evaluation of student achievement that is personal, positive in nature and strictly individualised	Student evaluations based on a letter grade or number in comparison to others
Use of volunteers and aides to facilitate and augment the teaching staff	Limited use of diversified services
Teacher/student planning of lessons	Teacher planning of lessons

Source: Adapted from National Association of Secondary School Principals (1997: n.p.)

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Pedagogy

Figure 4 emphasises pedagogy and selected aspects of school organisation rather than curriculum content. Middle-schooling pedagogy is more diverse than conventional pedagogy, raising issues about how complicated its acquisition will be for teachers. It is, however, together with other aspects of curriculum delivery, a very significant feature of middle schooling - arguably its most important feature. Middle schoolers insist that pedagogy is critical to the achievement of their goals for adolescents and greatly influences whether or not students will actually acquire depth of understanding, engage in authentic problem solving and apply their understanding to new situations.

Middle schoolers also argue that while the pedagogy has many different components, the presence of a few - or even many - of them does not necessarily mean that authentic middle schooling is in place. Figure 5 summarises the main features of middle-schooling pedagogy compared with those of conventional junior high schools.

FIGURE 5: COMPARISONS OF THE ROLES OF TEACHER AND STUDENTS AND THE NATURE OF STUDENT WORK IN MIDDLE SCHOOLS AND JUNIOR HIGH SCHOOLS

Middle -schooling pedagogy	Junior high pedagogy
Teacher role	
As coach and facilitator:	As dispenser of knowledge:
• Helps students process information • Communicates with groups • Coaches student actions • Facilitates student thinking • Models the learning process • Flexible use of materials	• Transmits information • Communicates with individuals • Directs student actions • Explains conceptual relationships • Teacher's knowledge is static • Directed use of textbook, etc.
Student role	
As self-directed learner:	As passive receiver:
• Processes information • Interprets, explains, hypothesises • Designs own activities • Shares authority for answers	• Records teacher's information • Memorises information • Follows teacher directions • Defers to teacher as authority
Student work	
Student-directed learning:	Teacher-prescribed activities:
• Directs own learning • Tasks vary among students • Designs and directs own tasks • Emphasises reasoning, reading and writing for meaning, solving problems, building from existing cognitive structures and explaining complex problems	• Completes worksheets • All students complete same tasks • Teacher directs tasks • Absence of items on left

Source: Adapted from National Association of Secondary School Principals (1997:n.p.)

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The pedagogy of the Curriculum Framework

The pedagogy recommended (though not mandated) in the Curriculum Framework is presented in the form of 12 principles of learning, teaching and assessment based on the values and beliefs of its authors. These principles are first stated in general terms in the overarching statement for the Curriculum Framework, then restated and contextualised in each of the eight learning area statements.

The authors say of their principles (1998:33) that:

They assist whole-school planning and individual classroom practice. It will be essential, therefore, to ensure that there is a shared understanding of them within particular school communities and a collaborative effort to implement these principles in ways appropriate to individual schools. ... They are based on what we value and our beliefs about the learning environment schools should provide and contemporary research and professional knowledge about how learning can be supported. As such, they should[15] *lead to school and classroom practices which are effective in helping students to achieve the outcomes of this Curriculum Framework.*

Figure 6 summarises the Curriculum Framework's principles of teaching and learning.

FIGURE 6: THE PRINCIPLES OF TEACHING AND LEARNING RECOMMENDED IN THE WESTERN AUSTRALIAN CURRICULUM FRAMEWORK

Title of Principle	Statement of Principle
Opportunity to learn	Learning experiences should enable students to observe and practise the actual processes, products, skills and values which are expected of them
Connection and challenge	Learning experiences should connect with students' existing knowledge, skills and values while extending and challenging their current ways of thinking and acting
Action and reflection	Learning experiences should be meaningful and encourage both action and reflection on the part of the learner
Motivation and purpose	Learning experiences should be motivating and their purpose clear to the student
Inclusivity and difference	Learning experiences should respect and accommodate differences between learners
Independence and collaboration	Learning experiences should encourage students to learn both independently and from and with others
Supportive environment	The school and classroom setting should be safe and conducive to effective learning

Source: Curriculum Council (1998: 33-36)

Few, if any, current or former teachers and students would take exception to these principles. Indeed, their practice would be applauded in any classroom. As they are recommended for all years of schooling, any criticism is likely to arise from questioning whether they are specific enough for teachers in particular phases of schooling, such as early or middle childhood. Planners are advised to be alert to signs of such criticism and to explore the reasons for it with the critics. The planner is likely to find a basis for the consensus on pedagogy that the school needs at the very centre of the dissension! Such an exploration could well be based on the contrasts between Figures 5 and 6.

[15] Nobody, it seems, can ever be certain of the efficacy of their recommended pedagogy!

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Figure 5 says, in effect, that middle schooling pedagogy is different from conventional pedagogy because of the roles that teachers and students are expected to play and the nature of the work expected of the students. The Curriculum Framework's principles do not draw role distinctions. So are its principles at odds with the roles of teachers and students described for middle schooling?

This is a question that planners should table for discussion, because all those involved with middle schooling need to formulate their own answers. The Committee's view is that while there is no inherent incompatibility between middle schooling and the Curriculum Council's principles, the latter are too broad to distinguish middle schooling from other forms of pedagogy.

Curriculum content

Middle schoolers emphasise the integration of knowledge rather than its separation into isolated subject areas, placing considerable importance on:

- teachers working together to plan connections among different areas of knowledge; and
- students making not only these intended connections but further connections to their own personal and societal realities and dreams.

While the Curriculum Framework does not prescribe the content of school curriculum, it does give prominence to what are called "learning areas" (Curriculum Council, 1998:15), of which there are eight:

These areas are a useful way of categorising the knowledge, skills and values essential for the education of students in Western Australia. They provide a structure for defining learning outcomes, for providing breadth and balance in students' education and for ensuring attention is given to specific disciplines.

However, the authors of the Framework also warn (Curriculum Council, 1998: 27) against schools' programs being designed in ways that could lead students to compartmentalise their learning into eight unrelated areas:

While eight learning areas have been identified, knowledge, skills, understandings, values and attitudes should be integrated across all learning areas. Students should be given frequent opportunities to see the connections between different areas of knowledge and endeavour. They should be encouraged to understand the contingency[16] of any division of knowledge into learning areas, subjects or other categories, and to appreciate the interconnectedness of all knowledge and the indissoluble relationship between knowledge and values. They should see learning areas and subjects as vehicles for understanding the world in which they live. Their education should help them to see the content of their learning areas and subjects at work in their own lives and the world around them. The holistic nature of human learning and knowledge should be emphasised throughout students' schooling.

For these reasons, the Framework includes sections on "links across the curriculum" in both the overarching statement and each learning area. These links are there to:

show teachers and administrators how to make connections that take into account the holistic nature of the curriculum and provide students with learning opportunities that integrate similar knowledge, skills and values across learning areas.

(Curriculum Council, 1998: 41)

[16] Does this mean the *arbitrariness*?

Given these statements, it can be seen that, philosophically, middle schoolers and the Curriculum Council have a similar outlook on the importance of achieving seamlessness across the curriculum. Planners, however, need to ensure that they have a well-developed appreciation of the complexities to be faced by teachers responsible for converting the philosophy of the Framework into practice.

The links in the Framework are of two kinds: direct or indirect. A direct link is one such that:

Achievement of the [specified] learning area outcome will be fundamental to the achievement of the specified outcome from the overarching statement: that is, the knowledge, understandings, skills, attitudes and values in the learning area outcome are the same as (or are a sub-set of) those in the overarching statement outcome.

(Curriculum Council, 1998: 41)

An indirect link is where the achievement of a specified learning area outcome assists, but is (presumably) not critical to, the achievement of the overarching outcome or outcomes specified in the link[17]:

This means that one or more of the outcomes [as specified] in the learning area statement would make a contribution to the achievement of the [specified] overarching learning [outcome] if learning opportunities were to be provided and assessments of student achievement were to be made with that overarching outcome in mind.

(Curriculum Council, 1998: 41)

By way of example, the Framework states that Overarching Outcome 3 has a direct link to Outcome 1 of the Society and Environment learning area[18] and indirect links to Outcomes 2-7 of that learning area.

Specific links among outcomes are listed in the Framework (1998: 42-47). Each of the first 11 overarching outcomes has many "significant" direct and indirect links to learning area outcomes. The list is not, however, exhaustive:

Teachers and students will make many other connections through flexible approaches to learning and teaching.

(Curriculum Council, 1998: 41)

In addition to these links between learning area outcomes and overarching outcomes, the Framework also describes links between the learning areas themselves.

Combining outcomes, content and pedagogy to form programs

In the final analysis, outcomes, content and pedagogy must be combined to form programs. Planners need to have a clear conception of what this means for middle schooling, because the central curriculum task for the next few years for all Western Australian schools – regardless of whether they are middle schools or otherwise - is the same: the development and delivery of learning and teaching programs that successfully achieve the Curriculum Framework's mandated learning outcomes.

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[17] Overarching Outcome 3 has a total of 29 indirect links with outcomes in seven of the eight learning areas.
[18] Overarching Outcome 3 also has direct links to 17 other outcomes from five of the other seven learning areas.

A "learning and teaching program" is a plan of what students and teachers will actually do over a specific period of time - a week, month, term, semester or year. All programs show teachers' selections of outcomes, content, pedagogy and assessment for the period. Programs vary in their level of specificity, with many teachers planning to the level of individual lessons. Some programs are jointly developed and used by more than one teacher (such collaborative planning is a feature emphasised by middle schoolers).

Programs may cover one learning area (typical among secondary teachers), more than one (e.g. a secondary teacher integrating science and technology) or all eight areas (typical among primary or early childhood teachers). Whole-school programs cover all year levels and learning areas. They are much less detailed than teachers' programs and typically highlight priorities for improvement: for example, reading or writing.

Against this background, two key questions for planners are:

- What would differentiate middle-school programs from conventional upper-primary or lower-secondary programs?
- Are good middle-schooling programs more difficult to design than good primary or secondary programs?
- Can middle-school programs produce better results than conventional programs?[19]

The self-directed learner

Of all the features of middle-schooling pedagogy, the one that is most strongly emphasised is "student-directed learning". Its importance to planners is threefold: it raises a fundamental issue for outcomes-focused education; it stands conventional pedagogy on its head; and it has profound implications for the choice and management of curriculum content.

Firstly, if students are self-directed, how can we have confidence that they will direct themselves towards the mandatory outcomes of the Curriculum Framework? To put it colloquially, what is to prevent them from "taking off in all directions"? The answer must lie in large part in the students having a clear understanding of the Curriculum Framework's outcomes.

If people cannot see a point to things, they search for one; otherwise their work is desultory. Often, students cite "because the teacher told us to" or "to pass the test/course/unit/examination" or to "get a job" as reasons for their activity. How refreshingly different it would be if, instead, students instead said things like "So I will be able to view a wide range of visual texts with purpose, understanding and critical awareness"[20]?

Planning for self-directed learning means finding ways of helping students to make connections between their work and the outcomes of the Curriculum Framework, perhaps by providing them with the relevant parts of the progress map that the school is using. It also involves being able to show students in advance appropriate examples of the kind of work or behaviour that count as evidence of the achievement of an outcome.

Secondly, the concept of student-directed learning inverts the conventional relationship between student and teacher.

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[19] In answering these questions, planners face a paucity of well-conducted Australian (let alone Western Australian) research. The third is really one for the future; one that can be addressed only after middle schooling has become established - provided, of course, that researchers become involved now and baseline information is gathered.
[20] One of the outcomes of the English learning area.

A rule of thumb developed by those who have studied verbal interaction in conventional classrooms is that the teacher initiates 90 per cent of classroom talk. Ninety per cent of instructional talk involves the teacher asking questions. Ninety per cent of these questions are "closed" - of a factual or information-seeking nature - and asked in the expectation that students should already know the answers.

The underlying point is that teachers are "in the driving seat" when it comes to conventional classroom interaction. The students are teacher-directed, not self-directed. It is a pedagogy that is geared heavily to outcomes related to *knowing that*, rather than *knowing how* and *knowing why*, to use Adler's terms. It is also a pedagogy that makes many of the Curriculum Framework's outcomes quite inaccessible to students.

Middle schoolers argue that in a class of self-directed learners, the nature of the interactions between students and teachers is markedly different. The questions shift from being closed to open-ended. Students are encouraged to develop multiple solutions to a single problem. The teacher acts as a coach, facilitator or co-learner.

When students' explorations are blocked, the teacher intervenes to provide additional guidance, supportive modelling and practice, and interactions with others that can help the students get back on track. A key to all these roles is the teacher's ability to engineer provocative challenges and to be able to "read" students' responses to these challenges in relation to the achievement of desired learning outcomes.

Thirdly, the implications for curriculum content selection are also quite radical by conventional standards. Standard pedagogy revolves around the textbook. The Director of the Curriculum Council, Paul Albert (1998: 4), makes the point succinctly:

In many ways, the school is a product of the book. Teaching and learning is organised around knowledge-based disciplines that have been developed and refined by generations of scholars in books and the printed media over the centuries. The written text, which is linear, bounded and fixed, has provided the model for school structures and for teaching and learning.

The linear progression of a whole class through one book at a pace set by the teacher is alien to self-directed learning. Students, as individuals or as small groups, working with many different print materials, is closer to the mark.

But then there is the realm of non-book material and information technology, access to which is said to have the potential to transform learning and teaching. Again, Albert (1998: 4-5) makes the point:

The digital revolution, which provides amongst other things for hypertext, will transform this linear, stable and bounded approach to knowledge to one that is dynamic, seamless and non-sequential. Unlike the static book, hypertext is a variable structure of blocks of text that can be read non-sequentially and yet make sense. Although the conventional reading habits apply [hence the continuing importance of literacy] within each block, once one starts to follow the links from one block to another, the rules change and a new experience applies.

Middle schoolers emphasise that while exposing students to an information-rich environment is necessary, it is not sufficient. The greater the amount of information available, the greater the need for the skills to find a way through it. And students also need efficient ways of organising and storing information.

"Advance organisers" can guide the exploration of content. These are generally abbreviated verbal or visual summaries of the key concepts and their relationships within a field of study. They are like large-scale maps of the territory. Ideally, such organisers would be derived from the relevant outcomes of the Framework, a point related to the need to keep self-directed students "on track".

A more profound message about the inadequacy of mere exposure to content is found in studies that compare conventional and unconventional approaches to the same content. Albert (1998:7, citing Reeves) describes such a study, where the content was the American Civil War. One class (the study group) designed its own lessons using a hypermedia construction tool and the other (the control group) was taught by conventional methods. An end-of-semester test revealed no differences between the groups. However, a year later it was found that:

Although students in the control group defined history as the record of the facts of the past, students in the design group defined history as a process of interpreting the past from different perspectives. In short, the hypermedia design approach led to knowledge that was richer, better connected and more applicable to subsequent learning and events.

The collaborative learner

The collaborative learner is a close relative of the self-directed learner.

Collaborative learning has two essential features - students work together in small groups and they cooperate. However, healthy competition is not alien to such groups, as this vignette (Albert, 1998: 8) illustrates:

In one corner, there were six [grade 6] students gathered around a computer to which, Brandy Shaw, the class's very innovative teacher, drew my attention. The computer had attached to it one of those small digital cameras and I discovered that the students were engaged in a videoconference with five other schools elsewhere in the [United] States.

The topic of discussion was wetlands. It appeared that each group of students had conducted a study of the wetlands in their local area and had e-mailed each other their reports and findings. The purpose of this session was to discuss the reports and findings.

As I stood with the students, one of the students on the screen challenged a finding presented in the report that had been submitted by the students I was with. He stated that his group had been in contact with an expert on wetlands in their local university and that the particular assumption made by my group was incorrect.

There was a scurry where I was standing as one small boy rummaged through a file, found a piece of paper and then waved it in front of the camera stating that they had consulted with professor so and so from the University of California and that the finding had come from him!

A teacher on screen who was facilitating the conference then interrupted and engaged the students in discussion about different points of view, the outcome being that both academics would be e-mailed about the points of dispute.

How important is technology in middle schooling?

A critical question for planners is whether advanced communications and information technology is necessary to the establishment of middle-schooling programs.

There is little doubt that digital technology is a powerful enabler of such programs. As has been intimated in previous sections, it enables teachers to envisage - and put into practice - quite radical conceptions of the fundamentals of learning and teaching programs, such as "scope", "sequence", "integration", "individualisation" and "motivation".

With electronic communications and the Internet, the scope of a program's content can be widened to an extent unimaginable 15 years ago. [21]

Similarly, digital technology, in the hands of self-directed learners, can create a situation in which the sequence of teaching and learning events:

- is decided by the learner as much as by the teacher
- can be different for each individual or group (provided each is guided by a grasp of the relevant outcome or outcomes).

As discussed earlier, the direct and indirect links among the Curriculum Framework's outcomes have been tabulated as an aid to the development of integrated programs. Conceived digitally, these links are analogous to those of the Internet or a multi-media edition of an encyclopaedia. Each learning area could be a "site" with "links" to other sites. The possibility of integrated learning programs for the Curriculum Framework being rendered in digital form is by no means out of the question: the technology and programming skills already exist.

As far as individualisation and motivation are concerned:

The really great thing about the computer is that it is child friendly. It has infinite patience and adjusts itself to the child's attention span. It will help to revolutionise education because it makes the classroom attractive. Children simply cannot get enough of the digital world and, likewise, the digital world makes it possible to focus on the strengths of students.

(Albert, 1998: 4)

Before planners open the Pandora's box of curricular possibilities due to digital technology, however, they need to take stock of the realities of the available resources: "can we afford it?" How motivating is it for teachers to hear of wonderful possibilities that are beyond their reach? And then there is the further issue of whether the teachers could or would use such equipment in the manner depicted by the enthusiastic commentators. Planners should consider Albert's (1998: 11) description of recent developments at Glen Waverley Secondary College in Victoria:

The school, which [has] approximately 1 700 students, has a ratio of about one terminal for every four students and all of its classrooms are wired to the Internet. Two years ago, the Glen Waverley School Council used its funds to buy every teacher a laptop computer and since then, it has done a massive amount of training in that area. As Hill states, "Teaching and learning in Waverley is definitely being transformed quite dramatically and when I go down the corridors now, I am looking at a very different school to what it was even two years ago. It is hardly recognisable".

But what about the adoption of middle schooling in a "low-tech" or a "no-tech" school environment? Are there attractive features of middle schools are not technology dependent?

[21] Albert (1998: 5) suggests that the knowledge available via the Internet is probably doubling every month.

Issues of transition and ethos

The biggest transition for most students is the one from primary to secondary school: in Western Australia it is the move from year 7 to year 8. Other significant transitions for many students include those from pre-school to primary school and from a district high school (or lower secondary school) to a senior high school.

Students' experiences of transitions vary according the differences in ethos, programs and work organisation between the new and old settings. For example, differences in work organisation alter the number of different teachers a student has on a day-to-day basis in secondary compared with primary school. One teacher largely determines the ethos and learning program of a primary classroom. This style, regardless of type, is not subject to marked variation - the students' day-to-day experience is one of continuity, even if the program is organised into separate learning areas.

Admittedly, there can be marked stylistic variations among primary teachers, just as there can be marked differences among (say) all secondary English or science teachers. It is the students' perspective, however, that is at issue here. In principle, the greatest potential for difficult transitions exists for students making the transition from integrated, learner-centred programs in primary schools to secondary schools where there are discrete programs for each learning area, each taught by different teachers who do not collaborate and do not have knowledge of students' performances across all areas. This is why proponents of middle schooling favour students having few teachers, who plan and teach collaboratively.

Having teams of collaborative teachers ("interdisciplinary teaming") is a definitive characteristic of middle schools generally: it is recommended in some form in all the literature. In essence, it means assigning cadres of teachers to relatively small groups of students. In practical terms it takes various forms, ranging from having as few as two to as many as five teachers taking responsibility for the delivery of the whole curriculum for the group.

Teaming is seen as the means of supporting two key features of the philosophy of middle schooling:

- It provides a structure for the planning and delivery of a curriculum that balances academic and personal factors.
- Because teachers share the same students and have a common planning period, they can respond to students' needs collaboratively, meet parents jointly and design programs that foster the transfer of knowledge and concepts across learning areas.

Teaming also contributes to an improved school climate through the closer relationships established between students and teachers, an important aspect of the school's ethos. The anonymity that sometimes characterises year 8 students is replaced by mutual knowledge of each other's name and personality; teams function to address individual student needs; and teams develop a shared commitment to work, especially when the students themselves feel they are "part of the team".

Planners should not lose sight, however, of the two new transition points that are created by the establishment of middle schools: that from primary to middle school (at year 5 or year 6) and that from middle school to a "separate senior school" (at year 9 or year 10[22]).

[22] Some people are concerned that, if middle schools that include year 10 are completely separated from senior campuses, students finishing year 10 who might otherwise have stayed on to year 11 will drop out of school altogether.

Time allocation and 'teaming'

Proponents of middle schooling stress the importance of substantial blocks of uninterrupted teaching and learning time: the relatively short periods (typically 40 minutes) in most secondary schools hinder the delivery of integrated and learner-centred curricula.

The general principle seems to be that middle schooling styles require time allocation to be more flexible and controlled to a significant extent by teachers and, for some proponents, students.

In primary schools, teachers already largely control time allocation; in secondary schools, time allocation is determined by the school's timetable. A primary teacher can curtail or extend a learning episode almost at will, depending on how the students are responding (to this extent, time allocation is being controlled by the students themselves).

In secondary schools, learning is episodic, with the maximum length of each episode being controlled by the timetable for the school as a whole; this is a factor beyond the control of either teachers or students once the school year has begun.

Proponents of middle schooling advocate flexible timetabling around substantial blocks of the time and claim that the benefits include:

- Large blocks that enhance teaming by providing time for teachers to plan together during a common planning time and to develop programs that vary the location of classes and the routines.
- Team planning and team teaching that help teachers to develop new strategies (or variations to their established ones).
- Teachers have less stress and more professional satisfaction because they deal with fewer students each day and can explore topics in greater breadth and depth.
- The pressure to "lecture" is diminished, opening up the role of facilitator and guide, with sufficient time being available for hands-on activities, group work, project-based learning, technology, the media centre, local organisations and the community.
- Students experience less fragmentation and more engagement in project-based learning and interdisciplinary activities, promoting skill application, interpersonal relations and decision-making skills related to concrete relevant problems.

Increasing time allocations has practical logistical and management advantages, such as those pointed about by McPartland (1997: 9):

Switching to the four-period day from the six-period day has also logistically cut down on the number of times that trouble can occur. Under the new schedule there are two less occasions in each day between classes for travelling to another room, which saves about twenty minutes daily when students will be in halls and stairways moving between classes. Thus an additional hour is gained each week for classroom instruction, when students are not travelling between classes with the risk of conflict or misbehaviour requiring adult monitoring.

While block scheduling is not the only way of introducing greater timetabling flexibility for secondary school teachers and students, it is the method most similar to that used by primary schools to organise their day.

This is a factor to consider when deciding whether year 10 should be included in a middle-school structure or the senior-school structure.

It also offers the greatest scope for teachers and students themselves to control how available time is allocated on a day-to-day basis.

The argument for greater flexibility relates to a concept called "self-efficacy"- the feeling for teachers and students alike that they have control over their own destinies.

Self-efficacy for students is seen to be important because it sustains learning both inside and outside the classroom. Self-efficacy is closely associated with the central concept of self-directed learning, discussed earlier in this chapter.

Clearly, however, teachers and students cannot both be in control of what goes on in the middle school classroom - some balance has to be struck between the control exerted by the teacher and that exerted by the students. This has led some proponents of middle schooling to advocate the notions of "negotiated curriculum" and "negotiated assessment".

Flexible and block scheduling are likely to entail the uncoupling of the middle-school timetable from that of the upper school, which is typically devised to suit the unintegrated style of the upper-secondary curriculum.

This limits the opportunities for teachers to work both with middle- and upper-school students[23].

A further consideration is the number of learning areas in which a teacher is competent to teach.

Williamson and Johnston warn against treating innovations such as teaming and block scheduling simply as structural and logistical changes, where the main planning problems are associated with determining the "correct" size, composition and scheduling combinations.

In their reflections on American schools (1997: n.p.), they comment that, in many cases:

Once teaming was implemented, schools found that little had changed. Teachers continued to teach their subjects in self-contained classrooms. Planning time was used to deal primarily with student issues. Few links were established between curricular areas. Many teams existed in name only. ... The magic is not in the size of the team, the amount of planning time, or the nature of the schedule. It lies in the commitment of the adults and the students to collaborative work that is focused on clear and meaningful tasks and is responsive to the varied needs of the students. ... Responsive middle schools move from the implementation of standard interdisciplinary teams to creating learning communities that make substantive changes in the relationships of adults to students. Such schools reflect sensitivity and responsiveness to the diverse needs and interests of middle level learners as well as a genuine concern for supporting and challenging their academic pursuits.

Clear and meaningful tasks

These points, while timely and well taken, raise further concerns about what constitute "clear and meaningful tasks", especially in the context of an outcomes-based curriculum framework. Again, Williamson and Johnston are instructive. In commenting on the adoption by middle schools of the interdisciplinary or integrated curriculum style (1997:n.p.), they refer to two extremes:

- *A traditional subject matter curriculum that was put "on hold" for several weeks each year while the teams participated in an interdisciplinary unit that may or may not [sic] bear any relationship to the school's goals, a contemporary issue in the lives of students, or some compelling topic of compelling interest and importance.*

[23] The implications of this are discussed in Chapter 4.

- *A curriculum composed of a series of interdisciplinary units that had little relationship to any organising principles: the development of thinking skills, the integration of important content-specific inquiry skills, or the investigation of critical issues and concerns.*

As a result, the middle school curriculum often looks disjointed, non-sequential and trivial to outside observers, including parents and elementary and secondary school educators. Teachers are frustrated because important concepts and skills are omitted from the content curricula. Students become bored with a focus on a topic of no interest to them (in one school, sixth graders focused on baseball for nearly six weeks. The topic shaped their reading, writing, science, mathematics, history, geography, physical education, art, music and computer science for half a marking period. At the end of the unit, one student's evaluation read, "I used to love baseball. Now I hate the sound of the word".

How to adopt the curricular styles recommended for middle schooling, while avoiding the disjointedness decried by these authors, is clearly not a trivial issue for planners. The same may be said of what makes a task "meaningful" and what the point is of teachers "negotiating" with students when traditionally the teacher has been seen to be not only *in* authority but also *the* authority.

The logic of the Curriculum Framework is such that questions of negotiation and meaning must always be sheeted home ultimately to the outcomes of the Framework. Teachers and students negotiating how to achieve outcomes where both parties to the negotiation have a clear understanding of what those outcomes are, is a very different matter from a situation that is completely open ended.

Similarly, a "meaningful task" is surely one that has a demonstrable link to one or more of the Framework's outcomes and both teachers and students understand such a link. The potential of outcomes to bring direction to settings in which Williamson and Johnston found it to be lacking is a question that planners must weigh carefully.

Development of support materials

During 1999-2000, the Curriculum Council can do much (or little) to promote the adoption of middle schooling. The next major phase of its work is the design, production and selection of "support materials" to assist schools to implement the Framework. The willingness and capacity of the Council to produce concrete realisations of the key middle-schooling concepts that have been discussed will test the analysis of the first part of this chapter.

What do support materials for an integrated middle-school curriculum look like when compared with those geared to self-contained learning areas? What do support materials geared to student-directed learning look like?

Considered critically from the perspective of middle schooling, the Curriculum Framework emphasises:

- the value of learning areas in their own right (which implies unintegrated curriculum);
- the importance of not rigidly adhering to learning area boundaries (which implies at least a measure of integration); and
- the need to take account of phases of development (early childhood, middle childhood, early adolescence and late adolescence/adulthood).

Middle schoolers will be drawn most readily to the Framework's sections on early adolescence. These, however, form only a small part of the total Framework, compared with the sections on the learning areas (in particular) and links between the learning areas. Middle school planners will be looking to the Curriculum Council for a signal about middle schooling. A dearth of Council support materials for outcomes-focused middle schooling will discourage them; the production or endorsement of quality materials for middle schooling will send strong signals of encouragement.

4. Planning Infrastructure

The infrastructure for a middle school will encompass buildings, facilities and equipment, and finances, as well as teaching, administrative and ancillary staff.

As was made clear in Chapter 1, the adoption of middle schooling does not necessarily require new buildings and facilities. This chapter identifies the major implications and decisions that have to be made and suggests some underlying principles that can guide decision making.

The discussion concentrates on the planning decisions that have to taken about teacher and student groupings, curriculum delivery and timetabling - the work organisation of middle schooling. Some basic principles are advanced to plan the deployment of resources to their best advantage.

Obviously, the sections on buildings and facilities are not relevant to those planning the introduction of *middle schooling* rather than *a middle school.*

4.1 EXISTING STOCK OF SCHOOLS

A demographic snapshot

According to published ABS statistics (1998), there were 1,031 schools in Western Australia in 1997. A total of 311,077 full-time students were enrolled, around 72 per cent of whom were in government schools, 17 per cent in Catholic schools and 11 per cent in non-Catholic, independent schools.

There were 767 government, 151 Catholic, 12 Anglican and 101 other non-government schools. Of these, 668 were primary, 167 combined primary-secondary, 132 secondary and 64 special schools.

Most schools (57 per cent) and students (71 per cent) are in the Perth metropolitan area.

Generally, Perth schools are larger than those in rural and remote areas and there is a higher proportion of non-government schools: Catholic and other non-government schools account for 18 per cent and 11 per cent respectively of Perth students, whereas in country areas the comparable figures are 13 per cent and 3 per cent.

Sixty-three per cent of schools are relatively small, with 300 or fewer students, and almost three-quarters of these are primary schools. There are 168 schools with more than 500 students, and, of these, 73 per cent are secondary or combined primary-secondary schools. Primary schools comprise almost 69 per cent of all schools, but cater for only 54 per cent of students. Another 172 schools (17 per cent) offer both primary and secondary education, to 46,200 students. Over two-thirds of these are in country areas. The 132 secondary schools are generally larger in size: they represent 14 per cent of all schools but enrol 31 per cent (91,100) of all students.

Structural options for creating middle schools

Generally speaking, there are three options for creating a middle school:

- Internally reorganise an existing combined primary and secondary school to make specific provision for students in the selected age range (e.g. a government district high school or a non-government K-12 school).

- Restructure two or more proximate schools (at least one secondary and at least one primary) currently on separate sites to bring all students in the selected age range onto one site.
- Build a new school designed for the chosen age range as part of planned educational provision for K-12 in a specific area.

The first option is, at least in principle, open to the 167 schools that already have primary and secondary students under the one administration.

For the K-10 schools in this category, the middle school structure would inevitably need to include year 10. The main structural decision would be which years of the primary school to include: should the middle school be 7-10, 6-10 or 5-10? For a K-12 school, however, the decision involves both transition points: such a school could opt, for example, not to include year 10, choosing rather to include that year group with years 11 and 12 to form a new style of upper school.

The advent of the local area education planning policy in the government schools sector has stimulated interest in the second option:

In primary schools, the traditional year 1-7 structure is changing as a result of the adjustment to the starting age and integration of pre-primary and kindergarten programs into the primary school environment. The traditional secondary school structure designed over forty years ago catered for large numbers of years 8, 9 and 10 students and a much smaller number of upper school students, most of whom were aiming to go to university. The challenge for education is to examine whether these structures are still relevant as we plan for schooling into the next century.

(Education Department of Western Australia, 1998: 9)

The second option involves somewhat more change for the people involved than does the first, because it requires, among other things, the restructuring of two or more school administrations and, possibly, the closure of one of the schools.

To the extent that middle schools require specialised teaching facilities (e.g. technology centres and science laboratories), this option is more likely to be implemented on secondary, rather than primary, school sites.

Efficient and effective delivery of a comprehensive range of upper-school courses, which is directly dependent upon the total number of students enrolled, is a key concern. One way of increasing that range is to boost enrolments through the creation of senior campuses[24].

In practical terms, this means concentrating all upper-school students in an area with two or more high schools (such as Geraldton or Bunbury) in one location. This leaves at least one high school in the area without upper-school students, thereby creating the conditions for a reconsideration of how best to organise teaching and learning in a school catering exclusively for younger adolescents.

The key question for the planner is "What are the options in my school or in my district?"

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[24] Such as those the Education Department's developments as Cyril Jackson and North Lake and those planned for Cannington and the Western Suburbs.

4.2 STAFF

This is an issue both for middle schools and middle schooling.

The staff of a school is generally regarded as its most important resource. There are various ways of ascribing value to this resource; two that are of particular relevance to middle schooling are the concepts of *bank of time* and *bank of expertise*.

The Hoffman report (1994) calculated that the 89 staff of a large government high school had a bank of time that could deliver over 1,550 hours of teaching and about 340 hours of administration, pastoral care and other activities per week.

The bank of expertise of secondary school staff is generally reckoned in terms of subject-area specialisations. Secondary teachers tend to specialise in a major and a minor teaching area: for example, mathematics and general science, or English and social studies. Primary teachers are regarded as generalists rather than specialists. The adoption of middle schooling has significant implications for what a school needs in its "bank of expertise" and how best to spend its "bank of time".

Planning principles

The principles for middle schooling in Australia and elsewhere are based on firm beliefs in the need for integration, coherence and continuity in the curriculum and the potency of collaborative approaches to teaching and learning. The allocation of time in middle schooling is characterised by:

- teachers working across learning areas rather than specialising in one or two of them;
- staffing structures that are more like those of primary schools than secondary schools;
- teachers working in a range of different modes, with an emphasis on team teaching and collaborative learning;
- effective team teaching, requiring team planning and schools allocating time to enable such planning to occur; and
- the availability of specialist teachers to work with upper-primary students.

Consequences

A number of consequences arise from the adoption of these principles and need to be considered by schools and systems in their planning.

Teacher education and professional development

Teacher education courses are geared to produce early childhood, primary and secondary teachers. There are no courses in Western Australian universities designed to graduate middle-school teachers. Accordingly, it has to be asked: "What kind of graduate is better suited to middle school: primary or secondary?" "Should universities be offering undergraduate courses in middle schooling?"

While no single university is in a position to mount specific middle-schooling courses, it might be possible to do so through cooperative arrangements of the kind emerging at the University of Western Australia and Murdoch University with the establishment of the Institute of Education, particularly if this approach were to be extended to include one or more of the other universities.

What kinds of professional development are needed to prepare experienced primary and secondary teachers for middle-school structures?

For primary teachers, the challenges relate to mastering the content and other requirements of the expected outcomes in the learning areas for the lower-secondary years. They are used to working with one group across all learning areas, and integrated planning and collaborative learning are not foreign to their experience.

For secondary teachers, however, the challenges lie in mastering the content and other requirements of learning areas outside their area or areas of specialisation and the integrated planning techniques of the primary teachers.

In considering these issues, it should be remembered that middle schooling is primarily a pedagogical reform rather than a reform to the basic content of school curriculum. In this regard, the traditional emphasis on pedagogy in the primary sector needs to be kept in mind, because it will be a feature of middle-schooling reforms.

The key question for planners is: "Who will make the best middle school teachers?"

Industrial

Are there any industrial impediments to delivering middle schooling? The current differences between primary and secondary teachers in allocated "non-contact time" would require attention. The Committee is of the view that these differences should not exist in a middle-school structure staffed by primary and secondary teachers.

This is not primarily an issue of equity (although this is important); rather it is an acknowledgment of the importance of collaborative planning and teaching in middle schooling. Non-contact time is when teachers will get together to engage in collaborative planning, and if there are differences among teachers in the amounts of time available, there will be friction as well as organisational difficulties.

What many regard as the ideal timetable for middle schooling (large blocks of undifferentiated contact time), is not compatible with the timetable for upper school (smaller, 40-60 minute periods of differentiated time). This raises the issue of whether a teacher can be deployed across both middle-school and upper-school classes.

The importance of the issue relates to the actual and perceived value attached to teachers accumulating experience in upper-school classes for promotional and professional purposes. For secondary teachers, there is a cachet associated with teaching years 11 and 12 classes that needs to be taken into account in schools' plans for middle schooling. It would be regrettable if the notion of being "stuck in the middle" became attached to the operation of middle schooling. This opens up the question of appropriate career structures.

There are other practical issues relating to communication and camaraderie if separate buildings are involved. Feelings of isolation may arise among teachers who are physically separated in different parts of the school or on different sites.

The key question for planners is: "How can appropriate career paths be provided to encourage teachers to work in middle-school settings?"

4.3 PER CAPITA FUNDING

There are two ways of approaching the question of per capita funding for middle-school students: the first is to consider current arrangements and the implications that arise from the introduction of middle schooling; the second is to look at actual costs.

Current arrangements

Under existing State and Commonwealth funding arrangements, primary school students attract fewer funds per capita than do secondary school students. There is no funding category for "middle school" students at either State or Commonwealth levels.

Year 7 students attract more funding in those jurisdictions with 6-6 systems (e.g. Victoria and New South Wales) than those with 7-5 systems (e.g. Western Australia and Queensland). This gives rise to the anomaly of year 7 students in the same middle-school arrangement attracting differing amounts of funding depending on where they are being schooled.

Consideration might be given by the Western Australian Minister for Education to taking this matter up through the Ministerial Council on Education, Employment, Training and Youth Affairs. The objective would be to have the Commonwealth provide the same level of per capita funding for year 7s across all jurisdictions.

The Committee counsels against the State increasing its per capita payment for year 7 students in middle-school structures over those in traditional arrangements.

While schools with middle-school arrangements would welcome additional funding, it would introduce an equity problem for systems and might serve as an unfortunate incentive for other schools to adopt middle-school arrangements solely to obtain the additional funding.

4.4 CAPITAL COSTS

The key questions for planners are:

- Do middle schooling or middle schools need specialised facilities?
- Does a middle-school organisational structure require a particular kind of physical structure within which to operate?

It is conceivable that schools could be effectively barred from middle schooling because they could not afford the necessary buildings.

However, the Committee's impression of the schools that have adopted middle schooling successfully is that their modifications have ranged from minor adaptations of existing facilities (to facilitate collaborative learning), through major modifications (to create large spaces for multi-age groups with adjoining seminar rooms) to new, purpose-designed buildings.

The Committee notes that increasing access to secondary schools' specialist facilities, such as science laboratories and technology centres, can, in some cases, significantly improve the use being made of them.

The Committee is also aware that the reduced cohort created by the change to the school entry age arrives in secondary schools in 2010 and leaves in 2014. This has the potential to create the conditions under which year 7s could be brought onto secondary campuses without the need for additional buildings.

Planners need to be very cautious about contemplating this step, because the effect of the reduced cohort lasts for only five years, after which each year group once again consists of a full cohort.

In respect of capital works for the creation of middle schools in the non-government sector, the current guidelines for the Low Interest Loans Scheme (LILS) might need to be modified or adapted. This is a matter that should be referred to the Office of Non-government Education in the Department of Education Services.

5. Endword

The stimulus for the preparation of this report was a concern that, following the increase in school entry age in Western Australia, the year 7 children of the future will be "too old to be still in primary school". It is based on the view that, as adolescents, these students would be better placed in secondary schools, along with other adolescents.

But, from what is known about puberty, it is clear that already a significant proportion of primary school students are young adolescents and that they are not confined to year 7. Raising the school entry age will not create a new phenomenon, but rather increase the prevalence of an existing one (ie. adolescents in primary schools).

Thus, the education of young adolescents in Western Australia is already split between two types of schools and moving the year 7s would not alter this situation, now or in the future. And in any case, there are cogent arguments advanced elsewhere in this report to the effect that even years 8-10 students are not best served by conventional secondary schools.

With this in mind, the Committee made its concern the education of young adolescents *per se*, which meant it had to consider not only the upper primary years but also the lower secondary years: the so-called "middle years" of schooling. It found that the literature on the subject has two main thrusts. One relates to the need to create a distinctive new (for most of Western Australia) type of organisational structure called a "middle school". The other relates to the need for a particular style of teaching and learning called "middle schooling".

The Committee's aim in this report has been firstly, to display enough of the arguments behind these two thrusts to enable readers to form their own judgements about their applicability in Western Australia. Secondly, the Committee, for the benefit of those with an interest in going further, has tried to identify the planning issues that would have to be resolved in the establishment of middle schools and middle schooling. For those wanting to take this next step, none of the issues raised in this report is insurmountable, but the principles of good planning dictate that each be addressed very carefully, preferably through a whole-school process.

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